



OWNER'S MANUAL

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WARNING

THE FCC REGULATION WARNING

This equipment generates and uses radio frequency energy and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio and television reception. It has been type tested and found to comply with, the limits for a class B computing device in accordance with the specifications in Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measure?:

- Reorient the receiving antenna.
- Relocate the equipment with respect to the receiver.
- Move the equipment away from the receiver.
- Plug the equipment into a different outlet so that equipment and receiver are on different branch circuits.

If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions. The user may find the following booklet prepared by the Federal Communications Commission helpful: "How to identify and Resolve Radio - TV Interference Problems", This booklet is available from the US Government Printing Office, Washington DC 20402, stock No.004000-0003454-4.

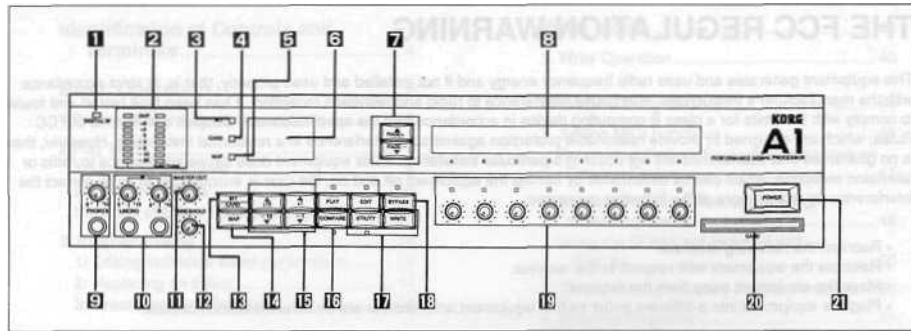
CANADA

THIS DIGITAL APPARATUS DOES NOT EXCEED THE "CLASS B" LIMITS FOR RADIO NOISE EMISSIONS FROM DIGITAL APPARATUS SET OUT IN THE RADIO INTERFERENCE REGULATION OF THE CANADIAN DEPARTMENT OF COMMUNICATIONS.

LE PRESENT APPREIL NUMERIQUE N'EXCÈDE PAS DE BRUITS RADIOÉLECTRIQUES DÉPASSANT LES LIMITES APPLICABLES AUX APPAREILS NUMÉRIQUES DE LA "CLASSE B" PRÉSCRITES DANS LE RÈGLEMENT SUR LE BROUILLAGE RADIOÉLECTRIQUE ÉDICTÉ PAR LE MINISTÈRE DES COMMUNICATIONS DU CANADA.

Identification of Control and Terminals

FRONT PANEL



1. DIGITAL IN Indicator

Lights up to indicate input of a digital signal.

2. L and R. RETURN (Input level) Indicators and digital CLIP LEDs.

Indicates the level of the input signal. The CLIP Indicator lights up when the input level becomes too hot. (The CLIP indicator does not light up when effect processing levels become excessive.)

3. INT (Internal) Indicator

Lights up during the operation at an internal program of the A1.

4. CARD Indicator

Lights up during the operation of a program provided on a memory card.

5. MAP Indicator

Lights up during the activation of Map Play Mode.

6. Program Number Display

Displays the current program number.

7. PAGE +, - (Page Up/Down) Keys

For selecting additional display pages when parameters exceed one page.

8. LCD Screen

Indicates the current chain, parameters, etc.

9. Headphones Jack and PHONES Volume Control

For connecting headphones and adjusting the volume.

10. IN (Input) Volume Control and Input Jacks (L/MDND, R)

- L/MONO and R input jacks for connection of mono. dual mono or stereo sources.
- Use the IN volume controls to adjust the level of the L/MONO and R inputs.
- The front panel inputs have priority over the rear panel inputs.

11. MASTER OUT Volume Control

For adjusting the output level. The volume level, set by the MASTER OUT volume control, can be written to each program independently.

12. THRESHOLD Level Control

For adjusting the noise reduction threshold level. The threshold level can be written to each program independently.

13. INT (Internal) and CARD Keys

Use the INT key for selecting programs stored within the A1 and the CARD key to select programs stored on ROM or RAM cards

14. MAP Key

Press to select Map Play Mode. Press again to cancel the Map Play Mode.

15. Up/Down Keys

For selecting programs and adjusting parameters in Edit Mode.

16. COMPARE Key

Press during editing to compare edited data with the original data. Press again to restore the original data.

17. Mode Keys and Indicators

Press the mode keys to select the desired modes. LEDs indicate the currently selected modes.

- PLAY: Play Mode for program playing and simple effect parameter editing.
- EDIT: Edit Mode for modifying the contents of programs.
- UTILITY; Global Utility Mode for setting MIDI and other functions; press again to cancel.
- WRITE: Write Mode for saving programs to the A1 memory or memory card.

18. BYPASS Key

Press to bypass the effects and output only direct sound.

19. Double Function Edit Controls and Indicators (A-H)

Press the double function edit controls in Play Mode to turn the corresponding effect ON or OFF. Press the double function edit controls to turn effects on and off and turn to adjust parameters in the EDIT MODE.

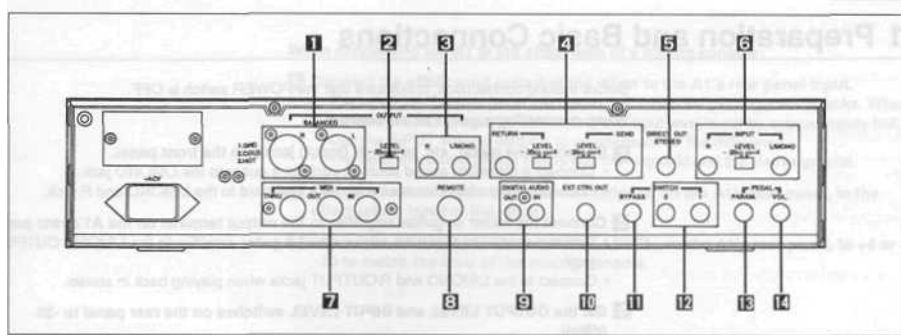
20 CARD Slot

For inserting optional ROM or RAM (MCR-03) cards.

21. POWER switch

For turning the power ON and OFF.

REAR PANEL



1. BALANCED OUTPUT Jacks

For connection to mixers and other equipment having balanced inputs.

2. OUTPUT LEVEL Switch

Set to match the input level of the connected equipment.

3. OUTPUT Jacks (R, L/MONO)

For connection to mixers and other equipment having unbalanced inputs.

4. SEND, RETURN Jacks and LEVEL Switches

For inserting an external signal processor, guitar preamp, etc. into the A1 elect signal path. The SEND (output) and RETURN (input) are only operational when the A1 program is using a SEND/RETURN CHAIN. Set the level switches to match the input/output level of the connected equipment.

5. DIRECT OUT (STEREO) Jack

For direct left- and right-channel stereo sound output.

6. INPUT Jacks (R, L/MONO) and LEVEL Switch

For connection to mixers, instruments, etc. Set the LEVEL switch to match the output of the connected equipment.

- Use the L/MONO input with a mono signal.
- With a mono input signal, set the R IN volume control to match the L/MONO IN volume setting
- The inputs on the rear panel are stereo 1/4" balanced (tip/ring/sleeve) jacks. When a mono unbalanced jack is connected, the input level is cut by approximately half. Use the INPUT volume controls to compensate for the difference.
- The tip of the stereo phone jack is hot, the ring cold and the sleeve ground.

7. MIDI Jacks (IN, OUT and THRU)

For connecting MIDI equipment.

8. REMOTE Jack

For connecting the optional RE1 Remote Editor or the FC6 Foot Contralto r.

9. DIGITAL AUDIO INPUT/OUTPUT Jacks

For connecting equipment with a sampling Frequency of 44 kHz, such as DATs, digital amplifiers, and other A1s.

10. EXT CTRL OUT (external control output) Jack

Conned to latching type footswitch inputs of external signal processors or guitar preamps, etc. A1 program changes can control bypass function or channel switching or external devices.

11. BYPASS SWITCH Input Jack

For bypassing the processed sound and outputting only the direct signal using a PS-1 momentary footswitch.

12. FOOT SWITCH Input Jacks (1,2)

For connecting a PS-2 footswitch to control functions such as Program UP/DOWN, etc. Connection setup is performed in Global Utility Mode.

13. PARAM.(parameter)PEDAL Input Jack

Connect the output of aKVP-001 volume pedal to this jack to control effect parameters, selected in the Dynamic Modulation function, in real time.

14. VOL.(volume)FEDAL Input Jack

Connect the output of a KVP-001 volume pedal to this jack to control volume. Effect Chain placement of the volume pedal is selected in the PROGRAM UTILITY MODE.

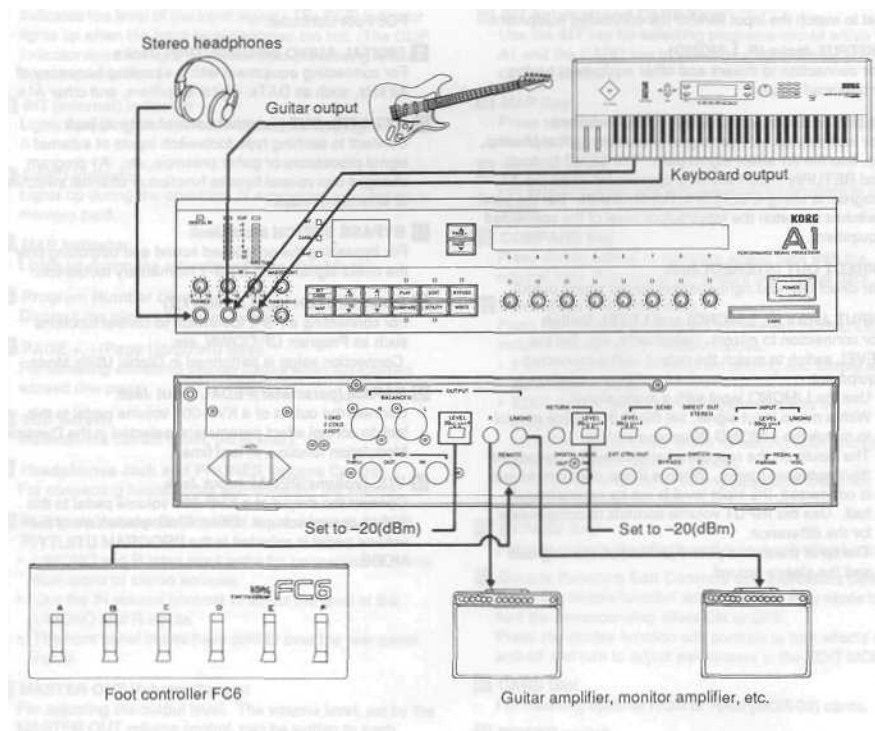
Basic Operation

1 Preparation and Basic Connections

Before making connections, make sure that The POWER switch is OFF.

When connecting a guitar or keyboards:

1. Connect the guitar, etc. to the IN (Input) Jacks on the front panel.
 - Connect a monaural sound sources such as a guitar to the L/MONO jack.
 - Connect stereo sound sources such as a keyboard to the L/MONO and R jack.
2. Connect the mixer or guitar amplifier to the output terminal on the A1's rear panel.
 - Conned monaural sound sources such as a guitar amplifier to the L/MONO OUTPUT jack.
 - Connect to the L/MONO and R/OUTPUT jacks when playing back in stereo,
3. Set the OUTPUT LEVEL and INPUT LEVEL switches on the rear panel to -20 (dBm).



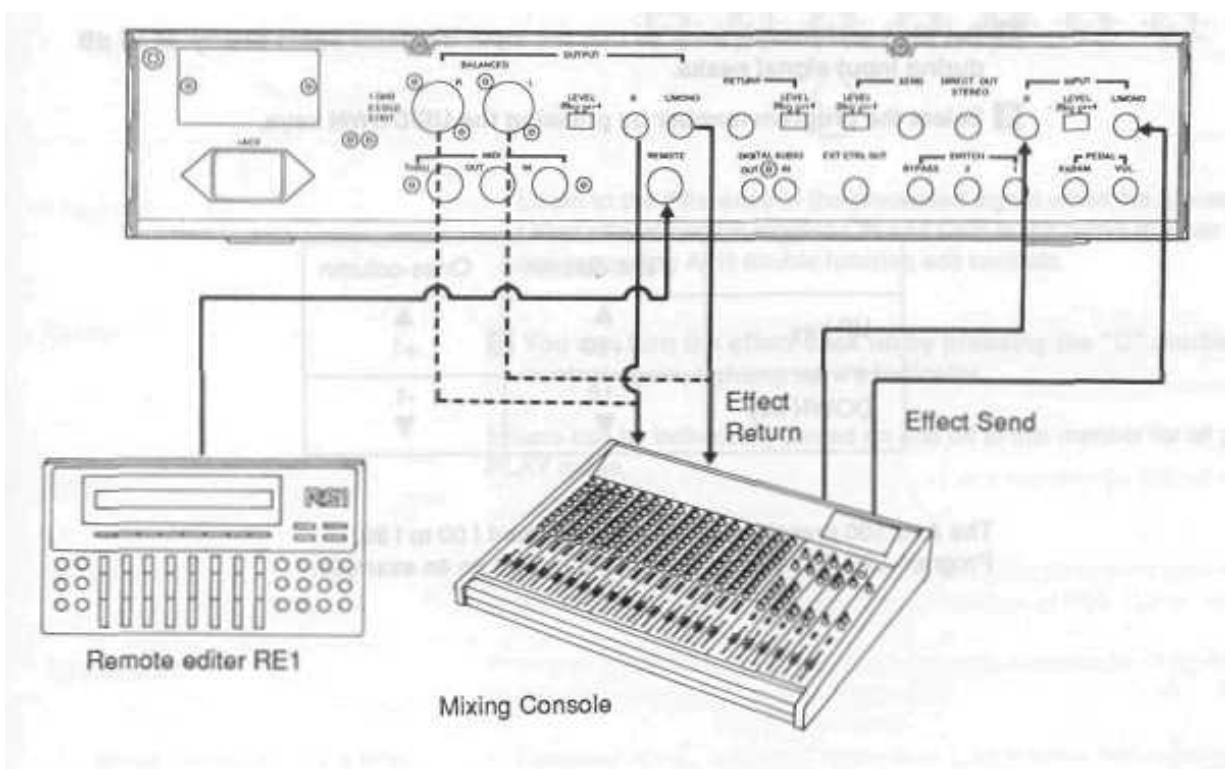
When connecting the A1 to the affect loop of a mixing console:

1. Connect the effect sand output of the mixer to the A1's rear panel Input.

- The inputs on the rear panel are stereo 1/4" balanced (tip/ring/sleeve) jacks. When a mono unbalanced jack is connected, the input level is cut by approximately half. Use the INPUT volume controls to compensate for the difference.
- The tip of the stereo phone jack is hot, the ring cold and the sleeve ground.

2. Connect the balanced or unbalanced outputs, on the A1's rear panel, to the effect return input of the mixer.

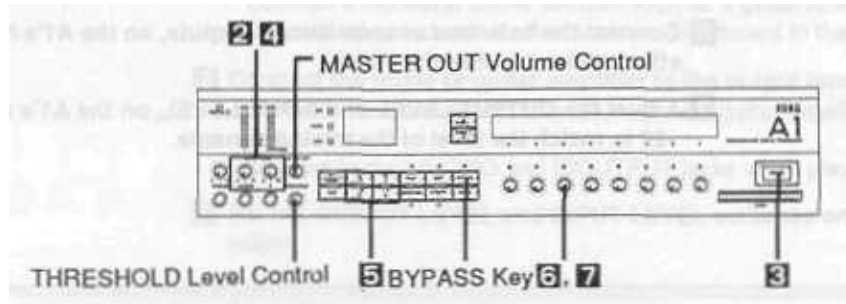
3. Adjust the OUTPUT LEVEL and INPUT LEVEL, on the A1's rear panel, to +4 or -20 to match the level of the mixing console.



2 Play Mode

The A1 has 100 factory preloaded programs

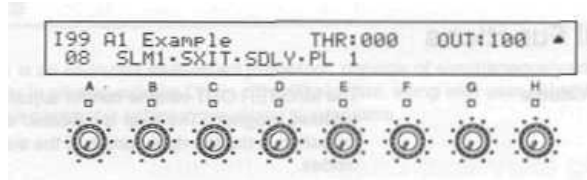
1/Selecting Programs



1. Connect a musical Instrument or Mixer to the A1 following the steps on pages 6 and 7.
2. Set the Input volume 0.
3. Turn ON the POWER switch.
4. Set the Input volume level so that the Input Indicator lights briefly at +6 dB during Input signal peaks.
5. Select the program number by pressing the UP/DOWN keys.

	Tens-column	Ones-column
UP key	▲ +10	▲ +1
DOWN key	▼ -10	▼ -1

The A1's 100 preset programs are numbered I 00 to I 99. Program 199 (A1 Example) is selected here as an example.



Playing with Program I 99

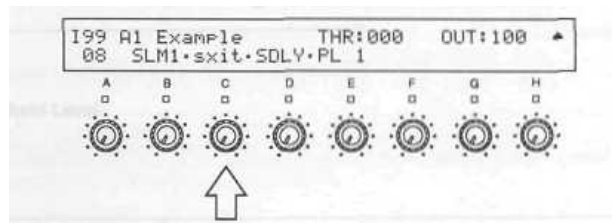
Program I 99 is made up of four effects; Stereo Limiter (SLM1), Stereo Exciter (SXIT), Stereo Delay (SDLV), and Plate Reverb(PLI). You can play with four effects in program number I99.

Each) program can combine up to 7 effects at the same time Any effect can be set to OFF if undesired.

Turning On/Off the individual Effects

6. Press the "C" double function edit control.

The indicator under the "C" double function edit control turns off, and the effect name ("SXIT") in the display changes to lowercase letters ("sxit") to indicate that the effect is OFF.



Listen to the difference in the processed signal when the Stereo Exciter effect is OFF. Other effects can be toggled ON and OFF in the same manner by pressing the corresponding A- H double function edit controls.

7. You can turn the effect back on by pressing the "C" double function edit control again, lighting up It's indicator.

Effects can be individually turned on and off in this manner far all programs while in the PLAY mode.

2/Useful Functions

► Master Volume

The MASTER OUT volume control adjusts the overall volume level of the currently selected program. The level is indicated as a value between 000 and 100 at the OUT indication in the top-right portion of the display. The volume control is active in all the modes.

► Noise Reduction Threshold Level

The THRESHOLD control can be used to adjust the noise reduction threshold level of the selected program. The value is shown at THR on the display. When the noise level is high, adjust the control to a high value. The control is operative in all modes.

<p>IMPORTANT: In Play Mode, the master volume output and noise reduction threshold levels are set to the values stored in memory every time a program is selected.</p>

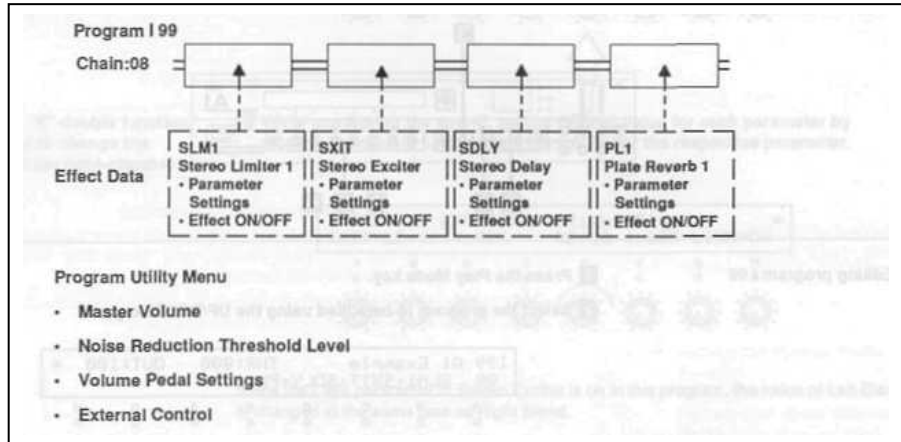
► BYPASS Switch

Pressing the BYPASS switch allows you to toggle between activation and deactivation of effects during sound output.

Structure of Effect Programs

The A1 is an all-in-one multi-effect processor, capable of simultaneously combining up to 7 effects in what is called a Chain. The Chain data, along with user-selectable effects and their parameter settings, are stored to programs.

Program Samples: A1 Example



Program

A program in the A1 is essentially an effect chain with effects, their parameter and other settings in memory including a master output level and noise reduction level and other settings.

Chain

An A1 program is an assembly of up to seven effects, which may be simply considered as seven different effect devices linked together. The pattern in which effects are linked is called a Chain. A Chain is the connection pattern in which boxes (effect boxes) are lined up.

Effects

The A1 contains 59 families of effects, all of which can be allocated to effect boxes to create different programs.

Variations

Different parameter patterns of an effect produce what are called Variations of the effect. For example, reverb comes in a Variation of Hall, Room, and Plate.

Parameters

Elements called parameters determine the characteristics of an effect, and can be assigned numerical values by the user.

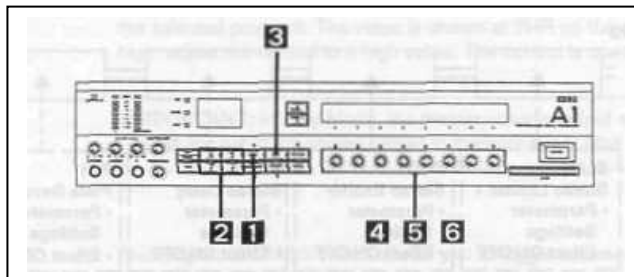
Variables Common In All Effect Programs

- Threshold level - threshold level of the built-in noise reduction system
- Master volume - overall volume of the program
- Volume pedal placement
- External control position setting

3 Program Editing

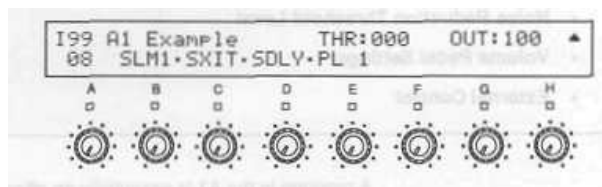
The A1 allows you to edit its preset programs to create your own custom programs.

1/Editing Individual Effect Parameters

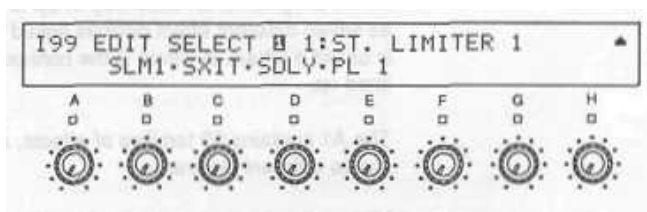


Editing program I 99

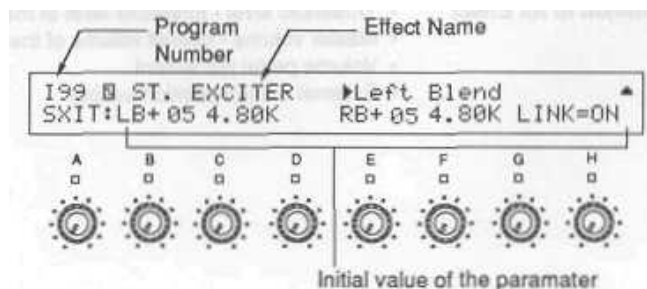
1. Press the Play Mode key.
2. Select the program to be edited using the UP/DOWN keys.



3. Press the EDIT key.
"EDIT SELECT" is shown on the display.

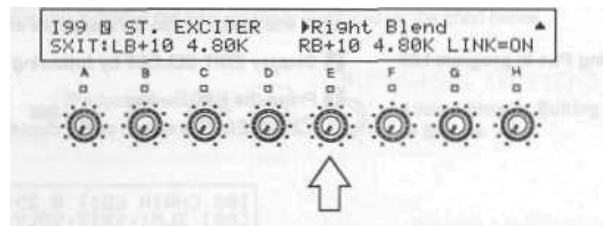


Press the "C" double function edit control to Change the level of the Stereo Exciter effect



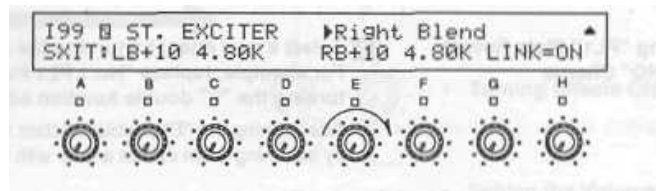
Press the "E" double function edit control to show "Right Blend" on the display

5. Press the double function key below the parameter you wish to change.
The parameter name is displayed in the top right portion of the screen.



Rotate the "E" double function edit control to change the strength of the right-channel exciter.

6. While monitoring the sound, set the desired value for each parameter by rotating the double function edit control under the respective parameter.



Since the LINK parameter of Stereo Exciter is on in this program, the value of Left Blend is changed at the same time as Right Blend.

7. Edit the parameters by rotating the double function edit control under the other parameters.

8. Change the contents of other effects by repeating steps 3 to 7 above.
Refer to "EFFECTS AND PARAMETERS" for details on the operation of each effect parameter.

2/ Replacing an Effect

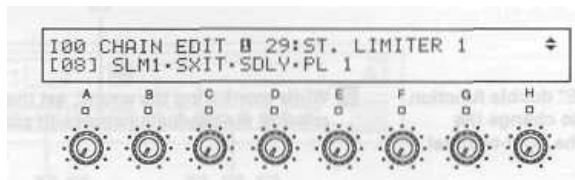
The A1 allows you to freely substitute effects in programs with others, as long as the other effects can fit into the respective effect box.

Replacing PL1 In program I 99

1. Display EDIT SELECT by following steps 1 to 3 on page 12.

2. Press the PAGE + key,

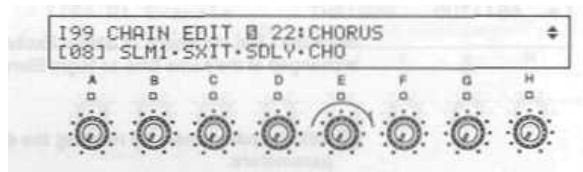
"CHAIN EDIT" is shown on the display. Now you can replace an effect with another.



Replacing "PL1" Plate Reverb with "CHO¹¹" Chorus

3. Select a new affect by turning the double edit control under the desired affect. For example, replace "No.1 PL1 Plate Reverb" with "No.22 CHO Chorus" by turning the "E" double function edit control.

After turning the "E" double function edit control, you may also find the desired effect by scanning them one at a time with the UP/DOWN keys.



Refer to "EFFECTS AND PARAMETERS" in find the effect order and number.

4. Similarly, replace one effect with another by turning the other double function edit controls.

To save the edited program:

In the Write Mode, store the edited program in memory (see page 39). A program that has just been edited will return unaltered to its original form if you select another program without executing the write operation.

3/ Creating a New Program

The procedure for creating a new program is outlined below. For the details, refer to "The Edit Mode" on page 22.

1. Selecting a Chain

Select one type of chain, from the five types (Serial, Parallel, etc).

For the chain selection procedure, and the types of chains, refer to "Chain Edit" on page 23.

2. Selecting an Effect

Place the effects to be used in the boxes of the selected chain. Refer to "Replacing Effects" on page 26.

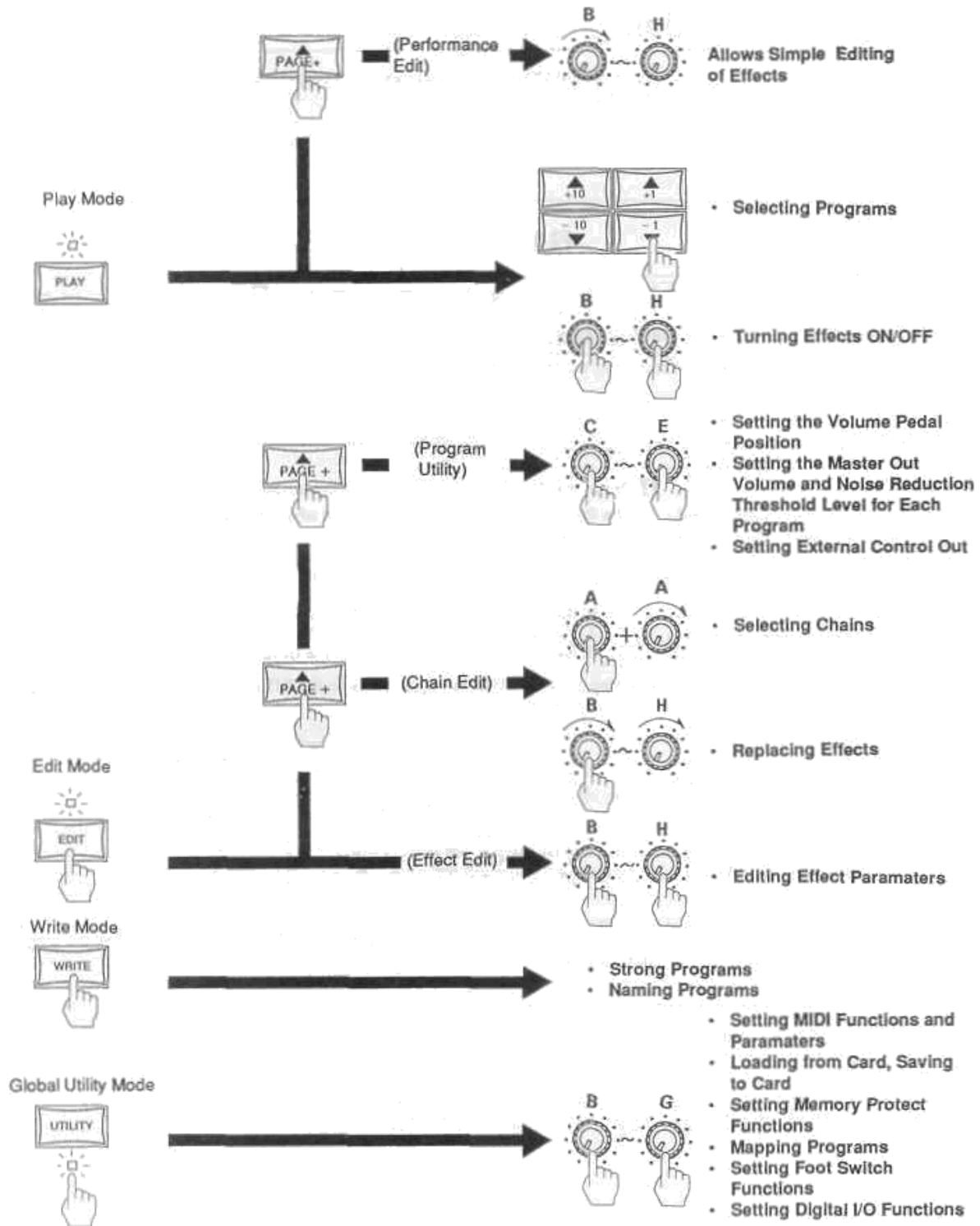
3. Setting effect parameters

Set a series of parameters that create the effect sound you want to have. Refer to "Effect Edit" on page 30.

The Four Modes and Their Functions

In addition to Play Mode and Edit Mode, the A1 has two additional modes for a total of 4: Write Mode for storing programs in memory and Global Utility Mode which provides supplementary functions.

The relationship between the four modes is illustrated by the chart below.



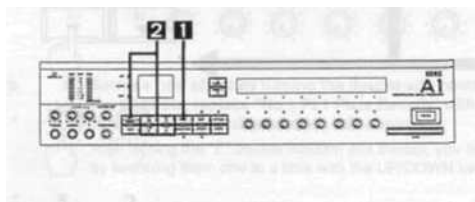
Play Mode

The Play Mode indicator lights up when the A1 is in Play Mode, at which time you can freely select and play any of 100 preset effect programs or programs provided on A1 compatible memory cards. The Play Mode also contains a Performance Edit Mode that allows real time editing of selected effect parameters.

1 Program Selection

Using the UP/DOWN keys, you can select programs that have been factory set within the A1 itself or stored on memory cards.

1/ Basic Play Mode



1. Press the Play Mode key to select Play Mode.

The Play Mode is automatically selected when the POWER switch is turned on.

2. • To select a program preset in A1:

Select a program number using the UP/DOWN keys.

• To select a program from a memory card:

1. Press the INT/CARD key. The CARD indicator lights up.
2. Select a program number using the UP/DOWN keys.

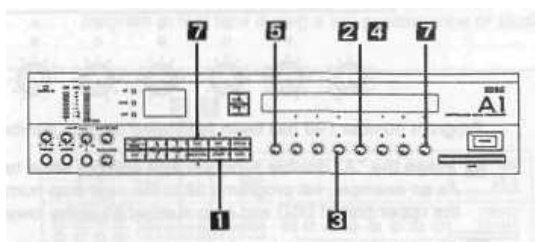
Press the INT/CARD key again turns on the INT and returns to the preset program selection mode.

	2nd digit changes	1st digit changes
UP key	▲ +10	▲ +1
DOWN key	▼ -10	▼ -1

Holding down the UP or DOWN key enables continuous scrolling through the program numbers.

2/ Rearranging the Program Order - Map Play

Map Play allows you to reorganize programs for performance or remap incoming MIDI programs to A1 internal programs.

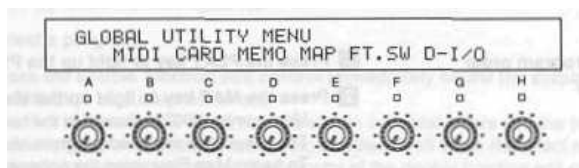


Map Edit

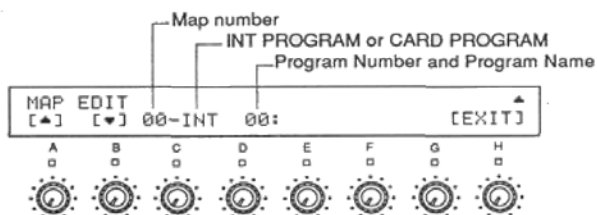
Preparation

The Map Edit mode area is where edits to the Map Play program order is done.

1. Press the Utility Mode key to show the Global Utility Menu on the display.



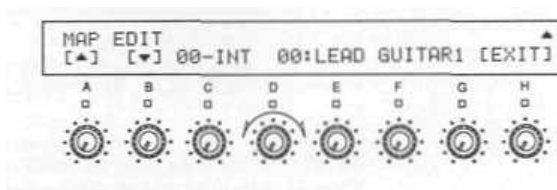
2. Press the "E" double function edit control to select Map Edit Mode.



The display indicates that internal program 00 is assigned to map number 00. First, set the desired program (ie., the program to be used first) to map number 00.

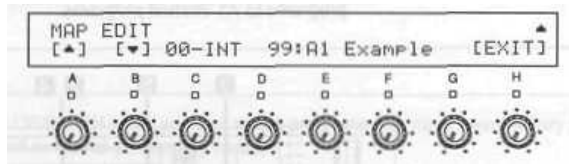
Storing program numbers as map numbers

3. Select INT or CARD by turning the "D" double function edit control. Specify "INT" to select internal programs in the A1 or "CARD" to select programs from a memory card.



4. Turn the "E" double function edit control to select the first program number to be played.

As an example, specify 99.



Program number I 99 has been registered as map number 00.

5. Press the "A" double function edit control once to advance to 01.

As an example, set program I 98 to the next map number Map number 00 as shown in the upper part of LCD end map number 01 in the lower part.

6. Repeat steps 3 to 5 to set other program numbers in the order to be played.

7. After setting all map numbers:

- Press the "H" double function edit control to return to the Global Utility menu, or press the PLAY key to return to Play Mode.

To change a map number setting, turn the "C" double function edit control or press the "A" and "B" double function edit controls to change the number one at a time to select the new map number.

**Checking program order
In Map Play**

1. Press the PLAY key to light up the Play Mode Indicator.

2. Press the MAP key to light up the Map Indicator.

- Map number "00" is shown in the red LED display.
- The previously assigned program number I 99 is shown in the LCD display.
- To begin Map Play using the optional RE1: Press the "INF" and "CARD" key at the same time to display the map number at the bottom-left portion of the RE1's display.

3. Press the UP key to advance to the next map number.

Pressing it once advances to previously assigned program number I 98.

Each press of the UP key advances the program number in the order they were stored.

4. To EXIT the Map Mode, press the MAP key again.

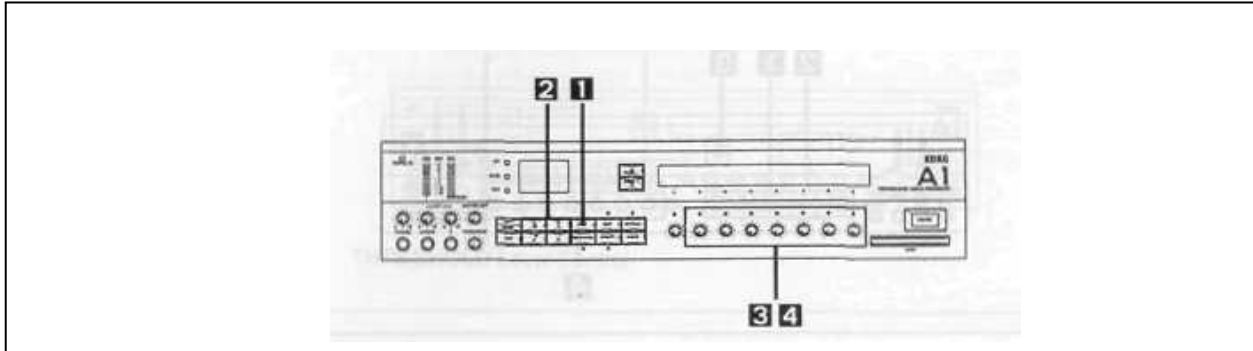
The INT Indicator lights up and the A1 returns to the basic Play Mode.

However, if you EXIT the Map Mode while on a Map number assigned to a card-stored program, the "CARD" indicator lights up and the A1 will be reading programs from an inserted card in the basic Play Mode.

<p>IMPORTANT: Even after powering down, data created in Map Edit Mode is saved in memory until next changed.</p>

2 Turning Effects ON and OFF

In the Play Mode individual effects in a Chain can easily be turned on and off using the double function edit controls. This function makes it very easy to modify an effects program in real time during a live performance or studio session.



1. Press the PLAY key to select Play Mode.

The Play Mode indicator lights up.

2. Select a program.

3. Press the double function edit control immediately below the displayed name of the effect to be turned on or off.

An effect is on when the effect name is shown in capital letters and the indicator of the double function edit control is turned on; an effect is off when the effect name is shown in lowercase letters and the indicator of the double function edit control is not lit.

4. Press the double function edit control to turn the effect on again.

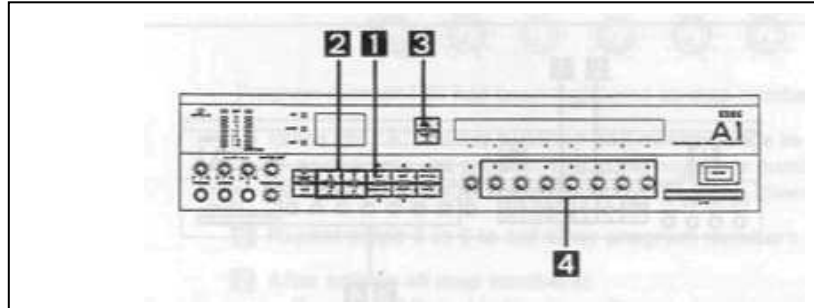
- The display on the RE1 indicates that an effect is ON or OFF by showing its name in capital or lowercase letters, respectively.

Effect ON/OFF settings can be saved in Write Mode.

IMPORTANT: Certain effects, such as MIXER and INPUT SWITCH, cannot be turned off by pressing a double function edit control.

3 Performance Edit

The Performance Edit function of the Play Mode allows easy “real time” editing of selected effect parameters. For a detailed list of the actual effect parameters available in this mode, please refer to the "EFFECTS AND PARAMETERS".



1. Press the PLAY key to select Play Mode.

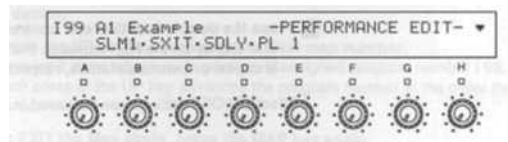
The Play Mode indicator lights up.

2. Select a program.

As an example, select 1 99, "A1 Example."

3. Press the PAGE key.

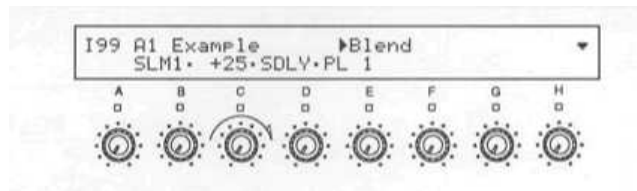
"PERFORMANCE EDIT" is displayed in the top-right of the display.



Changing the Stereo Exciter
(SXIT) BLEND level

4. Turn the double function edit control of the effect to be changed. The effect name shown on the display is replaced by a numerical value. The parameters of the effect that can be modified in Performance Edit mode are shown.

The double function edit control is + 00 at center, and a maximum of $\pm 50\%$ when turned. When set at ± 00 , The parameter setting is the same as the value written to the program



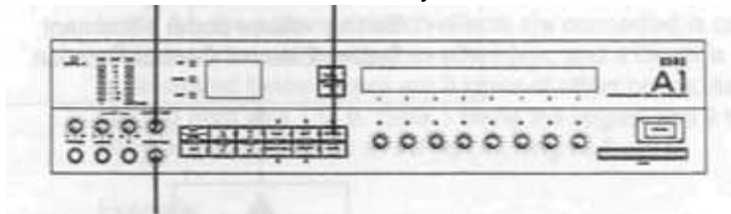
To return to Play Mode, press the PAGE- key.

Changes made to parameters with the Performance Edit function can be saved to memory by executing a writing operation in Write Mode.

4 Setting the Master Out Volume, Noise Reduction Threshold Level and Bypass Switching in the Play Mode

MASTER OUT Volume Control

BYPASS Key



THRESHOLD Level Control

Master out

The master volume enables you to adjust the overall volume of the currently selected program.

Adjust the volume with the MASTER OUT volume control.

An OUT value between 000 and 100 is displayed in the top-right portion of the display.

Threshold level

Use the THRESHOLD control to adjust the noise reduction level for the currently selected program. The threshold (THR) value is shown in the A1 display.

- Switching a program to another causes the master volume and noise reduction threshold levels set in Play Mode to change to the values that were memorized for the new program.

BYPASS Switching

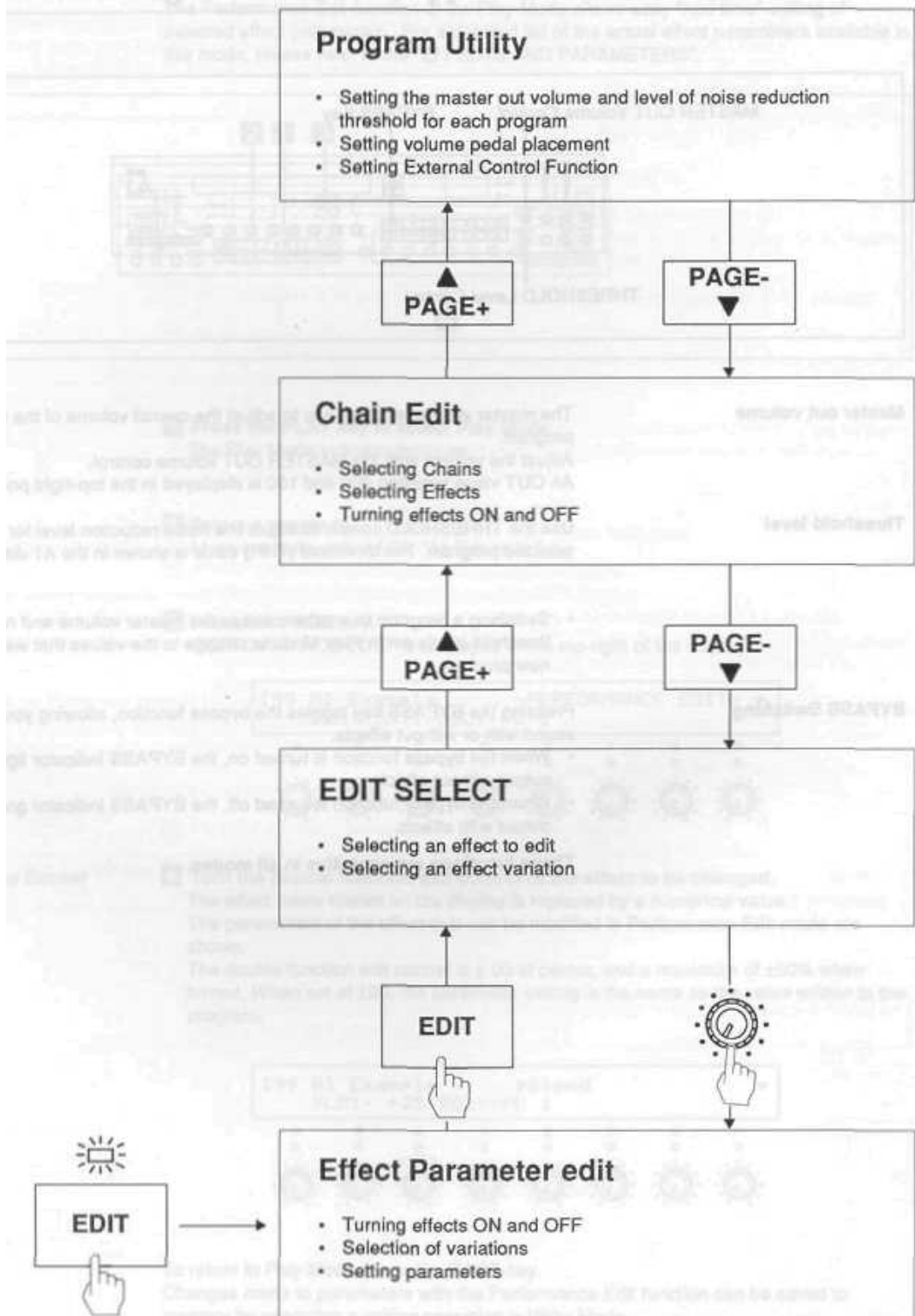
Pressing the BYPASS key toggles the bypass function, allowing you to listen to the sound with or without effects.

- When the bypass function is turned on, the BYPASS indicator lights up and sound is output without effects.
- When the bypass function is turned off, the BYPASS indicator goes off and sound is Output with effects.

These functions are operative in all modes.

Edit Mode

The Edit Mode enables you to select Chains and Effects, and edit effect parameters, to create your own programs. There are three types of edit functions found in the Edit Mode: Effect Parameter Edit, Chain Edit and Program Utility.



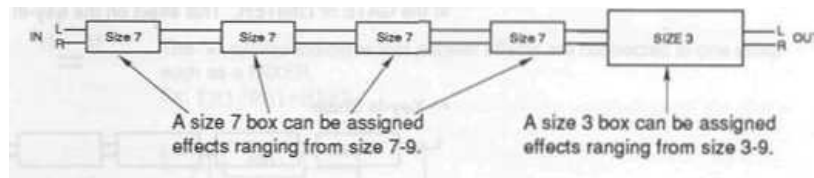
1 Chain Edit

The Chain Edit mode allows you to select how effects are connected as well as what effects are used and their order.

Chains

In the A1, the pattern in which effects are connected is called a Chain, A box in which an effect is contained is called an effect box, and a Chain is a linked pattern of effect boxes, as illustrated below. There are 9 types of effect boxes, each with different capacities ranging from size 1 to 9. (Size 1 being the largest and 9 the smallest.) You are allowed to place any effect into an effect box as long as it will fit.

Example:



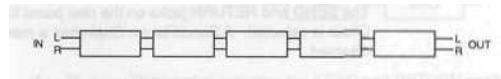
A stereo effect can be assigned to a mono box and a mono effect can be assigned to a stereo box. See the separate 'EFFECTS AND PARAMETERS' for effect sizes.

Types of Chains

The 50 Chains provided in the A1, are divided into 5 categories, each distinguished by the way in which the effect boxes are connected.

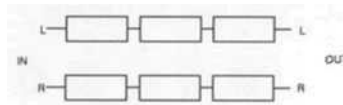
In a Series Chain, effect boxes are arranged sequentially from output to input.

1. Series Chain



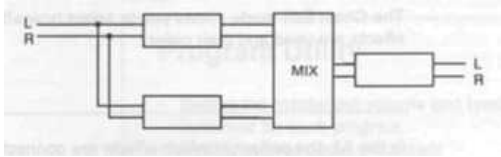
2. Dual Chain

In a Dual Chain, the left and right channels are completely independent of each other.



3. Parallel Chain

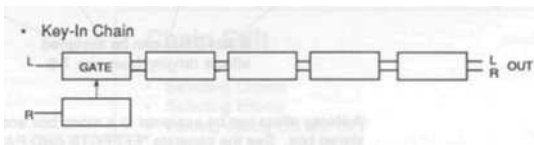
In a Parallel Chain, signals are split and multiple processing is done in parallel. In a Parallel Chain, the MIXER effect cannot be replaced with another effect.



4. Key-In Chain

A Key-in Chain Is a Chain which uses the input signal from the right channel as a key-in signal. In this case the right channel input signal is used only for effect control, and is not output as a sound source. The effects which are subject to key-in signal control are the Limiter effects and the Gate, effect.

In all 4 Key-In Chains, the "key" input signal runs through an effect before it is connected to the GATE or LIMITER. This effect on the Key-In signal is called a "Key effect".

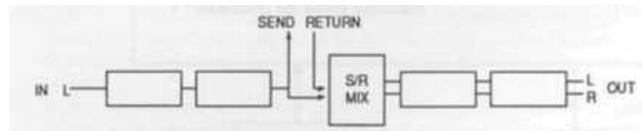


Key Effect Applications

Using an EQ on the Key-In signal allows you to create dynamic processing effects such as Frequency Compensated or Weighted Limiting and Frequency Selective Gating. For example; use the PEQL (low parametric EG) to lower the frequencies of the Key-In signal before it is sent to the Limiter. The Limiter will now compress only the high frequencies and not affect the lows. It is also possible to set up an EQ with the GATE effect so that it only opens when it "hears" your selected frequency.

5. Send/Return Chain

A Send/Return Chain allows external devices to be inserted into the A1's effect Chain. The SEND and RETURN jacks on the rear panel function only when a Send/Return Chain is selected. A Send/Return Chain has a mono input and the right channel input is disabled.



Note: During signal input, the return jack is inoperative in **SEND/RETURN** chains. (The Rch signal of the digital input is input as a return signal to the send/return mixer.)

Symbols Used to Show Effect Connection in a Chain

In the A1 display, the following symbols are used to indicate the connection between effects in a chain.

“ ■ ”

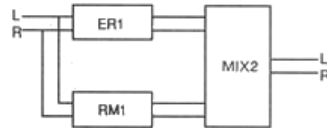
This symbol indicates a serial connection of effects.
Ex: SLM1 • SXIT • SDLY • RM1



“ / ”
“ = ”

Effects separated by “/” are in parallel.

The “=” symbol indicates that parallel effects are connected to one effect such as a MIXER.
Ex: ER1 / RM1 = MIX2



“ = ”

The “=” symbol after an effect indicates that the output is split and sent to two different effects.
Ex: DPN1 = 3BEQ • CHO / 3BEQ • CHO



“ ↵ ”

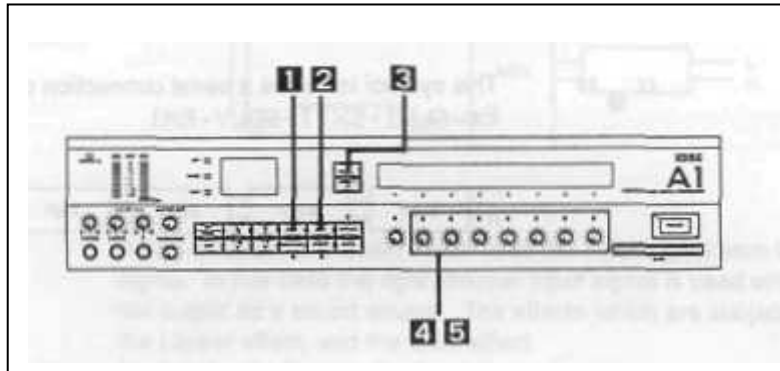
This symbol indicates the SEND and RETURN position in a Send/Return Chain.

EX: COMP • 3BEQ • XCIT • S/R • DLY • RM2
S/R is a send/return mixer.



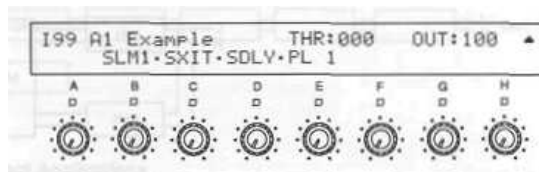
1/Replacing effects in a Chain with other effects

The following explains the procedure for selecting new effects for each position of a Chain.



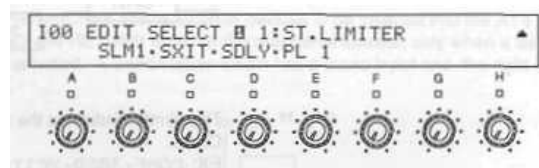
1. In the Play Mode, select the program that you wish to edit.

(For this example select factory program I 99.)



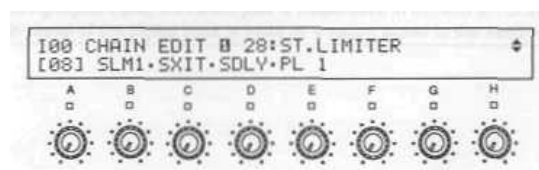
2. Press the EDIT key.

“EDIT SELECT” is shown on the display.



3. Press the PAGE+ key.

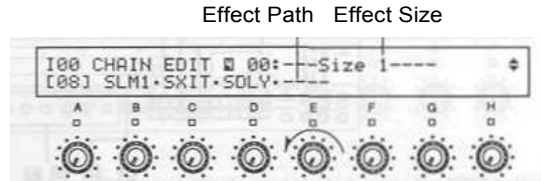
“CHAIN EDIT” is shown on the display.



Checking the effect size

4. Turn the double function edit control (B-H), below the effect to be replaced, fully counterclockwise.

The effect path "----" appears on the display and the effect box size is displayed in the upper right portion of the display. Make sure to check the size of the effect box before replacing the effect.



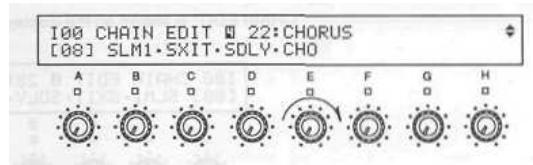
Turning the "E" double function edit control for the Plate effect ("PL1") fully counterclockwise shows that the fourth effect box is Size 1.

Selecting a new effect

5. Select 3 new effect by slowly turning the desired double function edit control clockwise.

The effect path display is replaced by the names of effects, whose sizes fit the effect box size 1 to 9, which appear on the screen one by one.

You can scroll through the effects one at a time by pressing the UP/DOWN keys.

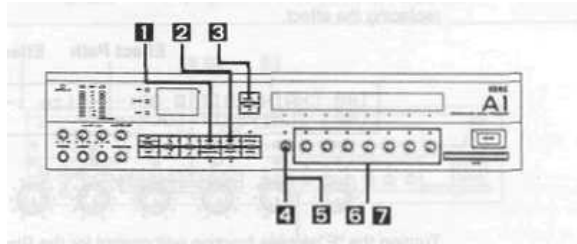


6. Continue entering new effects by repeating steps 4 and 5.

See the separate "EFFECTS AND PARAMETERS" for the sizes of the various effects. Refer to the "Chain List" to check effect box "sizes" for each Chain.

2. Selecting and editing a new Chain

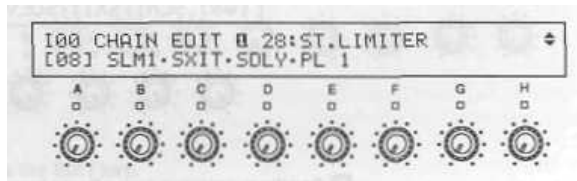
The Following explains the procedure for selecting and editing an affect Chain.



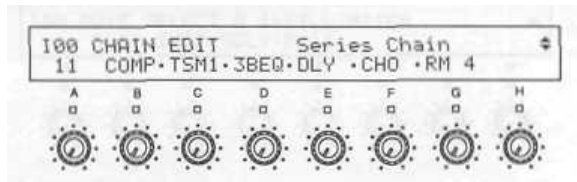
1. In the Play Mode, select the program that you wish to edit.
(For this example select factory program I 99.)

2. Press the EDIT key
"EDIT SELECT" is shown on the display.

3. Press the PAGE+ key.
"CHAIN EDIT is shown on the display.



4. Press the "A" double function edit control below the Chain number.
The display will show the current Chain type (Series, Parallel, etc.) in the upper right.



Selecting a Chain

5. Select a Chain by turning the "A" double function edit control or pressing the UP/DOWN keys. (Select Chain 5 for this example.)

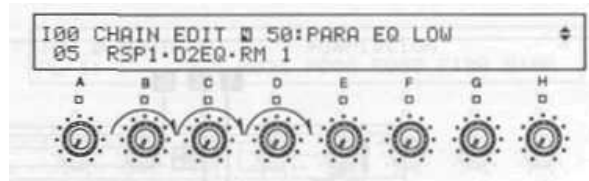


Chain 5 has three effects connected in Series. When a new Chain is selected, in the Chain Edit Mode, they contain factory default effect selections.

Refer to the "Chain List" for details on each Chain.

Selecting new effects

6. Slowly rotate the double function edit controls (in this example B-D) or press the UP/DOWN keys until the desired effect is displayed.
Available effects are displayed one after another.



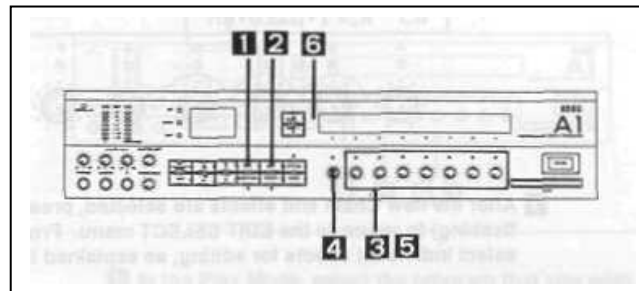
7. After the new Chain and effects are selected, press the EDIT button (LED flashing) to return to the EDIT SELECT menu. From this menu, it is possible to select individual effects for editing, as explained in the next section.

Chain Edit Using the RE-1

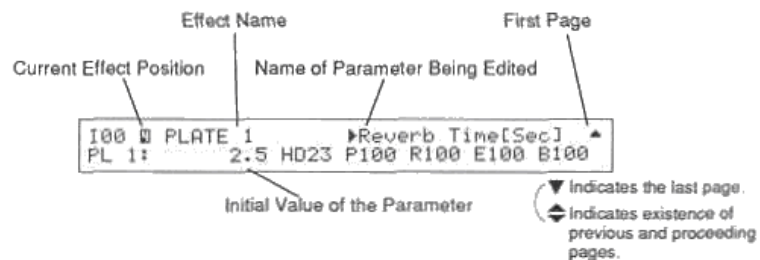
When using the RE-1, it is possible to select Chains and effects by number using the RE-1's ten key pad.

2 Effect Edit

The Edit Select menu allows you to select an individual affect and edit it's parameters.

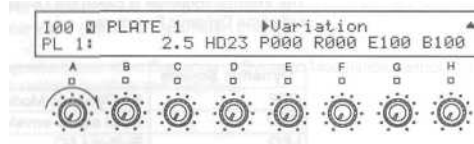


1. In the Play Mode, select the program that you wish to edit.
(Once again, select factory program I 99 for this example.)
2. Press the EDIT Mode key.
EDIT SELECT is shown in the display.
3. Press the double function edit control below the effect you wish to edit. As an example select PL 1 (Plate Reverb 1).



Changing an effect Variation

4. Rotate the "A" double function edit control to select an effect Variation. Some effects have other possible Variations. The Plate Reverb 1, for example, has Room 1 and Hall 1 available as variations. When rotating the "A" edit control, for effects with no variations, no change will occur.



Setting the effect parameters

5. Turn the double function edit control under any of the currently displayed parameters to change its value.

• For fine adjustment of parameter values

1. Press the double function edit control under the parameter to be set. The indicator of the double function edit control lights up and the parameter name is shown on the display.
2. Use the UP/DOWN keys to make fine adjustments of the parameter value.

6. Selecting effect parameters on additional pages.

Most effects have parameters on additional pages, as indicated by an arrow up on the top right of the display. Press the PAGE+ key to access these parameters. Refer to the separate "EFFECTS AND PARAMETERS" for details on each effect and its parameters.

Turning Effects ON and OFF

Effects can be individually turned ON and OFF in three A1 modes. In the Play Mode and Chain Edit Mode, by pressing the B-H double function edit controls, and in the Parameter Edit Mode, by pressing the "A" edit control. When an effect is turned OFF, its effect name changes to lowercase letters.

Compare Key

During editing, it is possible to compare the current edit, with the original programmed value, by pressing the COMPARE key. When you press the COMPARE key its LED indicator lights up. When you press the COMPARE key again the LED turns off and the edited parameter values are restored. If you make an edit while the COMPARE LED is lit your current edits will be lost.

Using the Dynamic Modulation Function

The Dynamic Modulation function allows “real time” control of effect parameters using MIDI data, volume pedals and input level envelopes.

The external controller is called the Dynamic Source and the parameter that it controls is called the Dynamic Parameter.

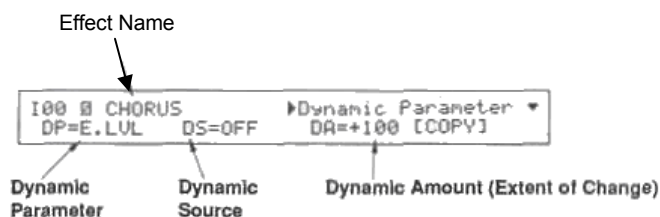
Dynamic Source	Explanation
OFF	No Dynamic Modulation
ENV	Input signal envelope curve
LFO	Built-in LFO
PEDAL	Volume pedal connected to the rear panel PARAM. Pedal input jack
Velo	MIDI Note ON Velocity*
AftT	MIDI aftertouch
Ptch B	MIDI Pitch Bend
Ctrl01-95	MIDI Control Change numbers

* When note data is played in chord form, the highest velocity is given priority.

Using Dynamic Modulation to control the Chorus

Using the Chorus effect as an example, pedals or MIDI data can be used to control the modulation speed and effect level.

(Select a factory program 31 or refer to page 16 and edit factory program I 99 to include Chorus.)



1. Press the EDIT key to enter the EDIT SELECT menu.

Press the double function editor below the CHO (Chorus) effect, to enter Parameter Edit, and then press the PAGE+ key until the last page of parameters (arrow down) is shown. Please note that not all effects have this Dynamic Modulation page.

Using a pedal to control the speed

2. Rotate the "B" double function edit control to select the Dynamic Parameter, "SPEED".

Some effects may have only one Dynamic Parameter.

3. Rotate the "D" double function edit control to select the Dynamic Source, "PEDAL".

Connect a volume pedal (output) to the rear panel Param. Pedal input. Please note that, OFF, ENV, or LFO cannot be selected as Dynamic Sources in some effects.

4. Rotate the "F" double function edit control to set the Dynamic Amount.

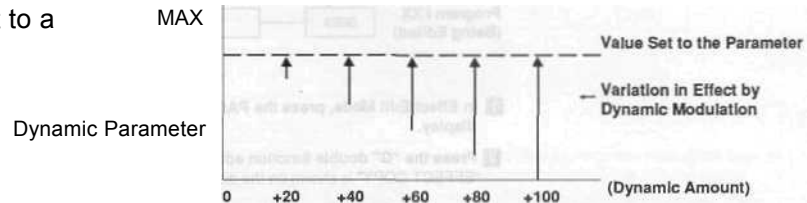
The higher the value the more the parameter can be varied by the Dynamic Source. (Pedal in this case). A parameter control "direction" can be specified by selecting a positive (+) or negative (-) Dynamic Amount value. For example, selecting a "+" or "-" setting, when using a PEDAL to control Chorus SPEED, specifies whether the SPEED will become faster or slow down when you press on the pedal. (See the diagram on the next page.)

Setting the Dynamic Amount

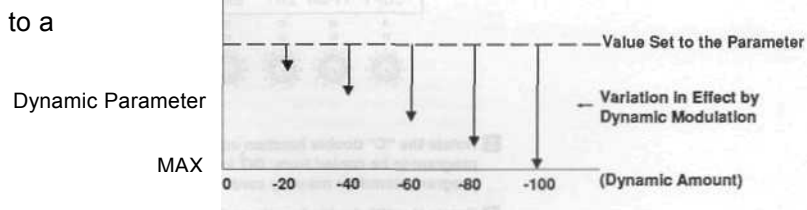
The Dynamic Amount setting determines how much control range The external controller, (Dynamic Source), has over the effect parameter, (Dynamic Parameter). Selecting a positive or negative value for the Dynamic Amount specifies the direction in which the parameter value (Dynamic Parameter) changes.

The diagrams below show the range of Dynamic Modulation control at different Dynamic Amount settings (positive and negative).

When the Dynamic Amount is set to a positive value



When the Dynamic Amount is set to a negative value



As shown above, with a Dynamic Amount of +100, a PEDAL, for example, will sweep the Dynamic Parameter from a 0 value to the level set in the parameter edit mode. A value less than +100 will decrease the control range. Maximum will always be the programmed parameter value.

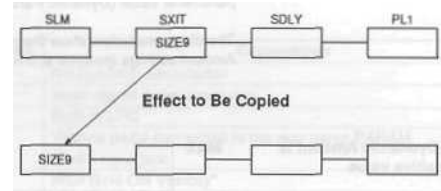
With a negative Dynamic Amount value, a PEDAL will start at the level set in the parameter edit mode and decrease the value as it is depressed. Minimum will always be the programmed parameter value.

Copying Effects

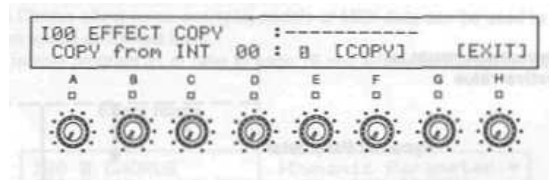
It is possible to copy an effect from another program to the current effect being edited. The effect to be copied can be a different effect but must be no larger in size than the effect box you are copying into.

Program I99

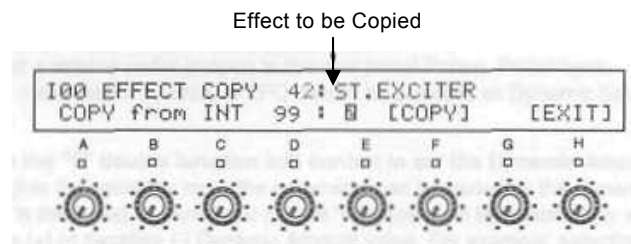
Program IXX
(Being Edited)



1. In Effect Edit Mode, press the **PAGE+** key until the last page is shown on the display.
2. Press the **"G"** double function edit control [**COPY**].
"EFFECT COPY" is shown on the display.



3. Rotate the **"C"** double function edit control to specify the location of the program to be copied from: **INT** for an Internal program of the A1, or **CARD** for a program stored on memory card.
4. Rotate the **"D"** double function edit control to select the number of the program to be copied from.
After pressing the **"D"** double function edit control, press the UP/DOWN keys to change the program numbers one at a time.
5. Rotate the **"E"** double function edit control to select the effect position in the Chain to be copied.
The number and name of an effect is not displayed if the effect is too large to fit into the effect box being edited.



After parameter copying is completed.

6. After selecting the offset to be copied, press the "F" double function edit control [COPY].
7. "COMPLETED" is shown on the display.
8. Press the "H" double function edit control [EXIT] to return to the Parameter Edit Mode.

3 Program Utility

The Program Utility Mode provides the 3 following functions:

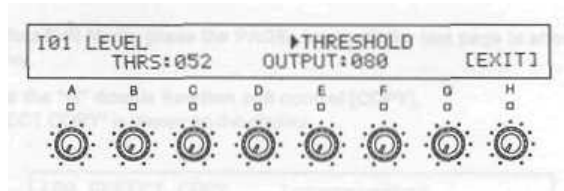
1. Setting the master volume and threshold level
2. Setting volume pedal position
3. Setting external control functions

1/Setting Levels

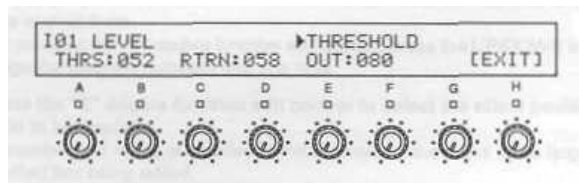
Setting the master volume and noise reduction threshold levels for each program.

1. While **EDIT SELECT** is shown on the display, press the **PAGE+** key twice.
The Program Utility Menu is shown on the display.

2. Press the "C" double function edit control [LEVEL].



3. Set the noise reduction level by rotating the "C" double function edit control.
Adjust the threshold level according to the respective noise level. When the chain includes SEND and RETURN, the level of noise reduction for the input signal can be set for the input jacks and for the RETURN jack. Rotate the "B" double function edit control to set the threshold level (or input jacks, and the "D" double function edit control for the threshold level of the RETURN jack. After pressing the various double function edit controls, you can use the UP/DOWN keys to change the value one unit at a time.
4. Set the master volume by turning the "F" double function edit control.



After completing the master volume and threshold level settings

5. Press the "H" double function edit control [EXIT] to return to the Program Utility Menu.

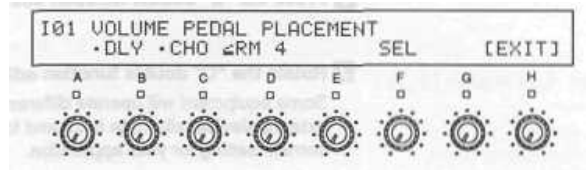
The master volume and input signal noise reduction threshold levels can also reset using the front panel MASTER OUT and THRESHOLD level controls. These levels are stored individually for each program.

2/Volume Pedal Placement

The output volume can be controlled with a volume pedal connected to the VOL. PEDAL input on the rear panel.

Follow the procedure below to set the volume pedal placement or position in an effect Chain.

1. While **EDIT SELECT** is shown on the display, press the **PAGE+** key twice. The Program Utility menu is displayed.
2. Press the **"D"** double function edit control [VPDL].



3. Rotate the **"F"** double function edit control (SEL) or use the **UP/DOWN** keys to move the cursor "≤" to the position you want to place the volume pedal.

Please note that some effect Chains have a fixed volume pedal placement. For details refer to the "Chain List".

After completing Volume Pedal Placement

4. Press the **"H"** double function edit control [EXIT] to return to the **PROGRAM UTILITY MENU**.

3/Setting the External Control Functions

The EXT CTRL OUT function allows the A1 to control effect bypass or "channel switching" on external devices using "latching" type switching. For example, connecting the EXT CTRL OUT to the channel switching footswitch jack, on a guitar amp, allows the A1 to control channel switching by program change.

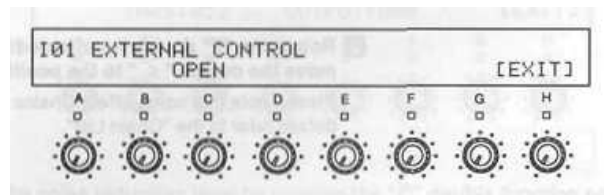
1. **With the Edit Select Menu showing, push the PAGE+ key twice.**

The Program Utility Menu is shown on the display.

2. **Press the "E" double function edit control.**

3. **Rotate the "C" double function edit control to select "OPEN" or "CLOSE".**

Some equipment will operate differently. With the EXT CTRL OUT connected to the external device, alternate back and forth between OPEN and CLOSE to find the correct setting for your application.



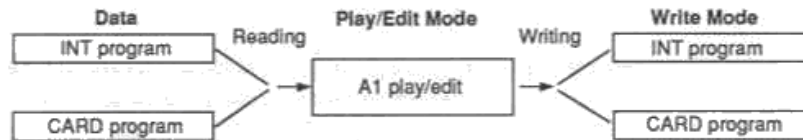
After completing the external control setting

4. **Press the "H" double function edit control [EXIT] to return to the Program Utility Menu.**

You can also switch the external control output jack between OPEN and CLOSE manually, by setting one of the programmable foot switches to EXT CTRL in the Global Utility mode.

Write Mode

The Write Mode is used for saving edited programs to the A1's internal memory or to a RAM card and for copying one program to another. Unless saved in this mode, an edit will be lost when another program is selected. The Write Mode also contains the program naming function.



1 Write Operation

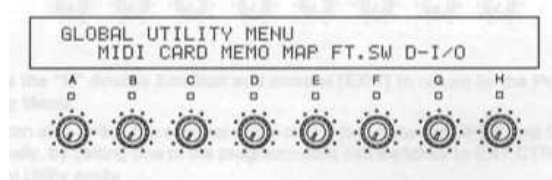
Setting up to save data to an Internal (INT) A1 program

Switch off the memory-protect function

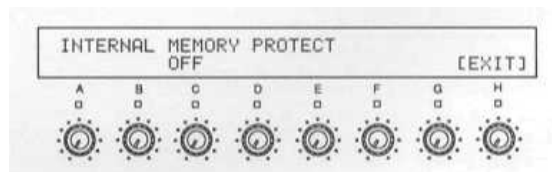
An INT program can be memory protected so that it cannot be erased by mistake. To save data to an INT program that is memory protected, the protection must first be switched OFF. Once switched OFF it is possible to perform the write operation.

1. Press the **UTILITY Mode** key.

The Global Utility Menu is shown on the display.



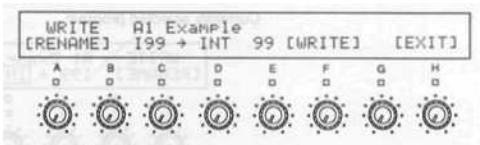
2. Press the **"D"** double function edit control [MEMO].



3. Rotate the **"C"** double function edit control to change the indication to **"OFF"**. It is now possible to perform the write operation.

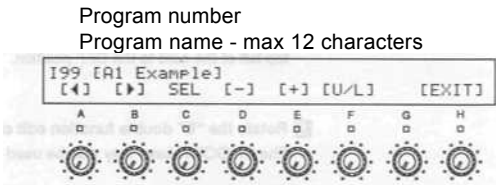
4. Press the **"H"** [EXIT] double function edit control to return to the **GLOBAL UTILITY MENU** or press the **UTILITY Mode** key to return to the previous mode.

Starting the write operation 1. Press the **WRITE Mode** key.



Specifying a program name You can give the program to be saved a name consisting of up to 12 characters. If you don't change the program name, proceed to step 7.

2. Press the **"A" double function edit control [RENAME]**.



3. Rotate the **"C" double function edit control [SEL]** to select the characters of the program name.
Press the **"D" (-)** or the **"E" (+)** double function edit control to single-step through the list of available characters. You may also select the characters by pressing the UP/DOWN keys.

Pressing the **"F" double function edit control [U/L]** changes a character to uppercase or lowercase.

4. After selecting a character, press the **"B" double function edit control ">"** to move the cursor forward within the name field.
Press the **"A" double function edit control "<"** to move the cursor backward within the name field.

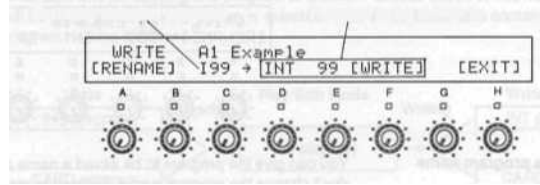
5. Repeat steps 3 and 4 to specify all of the characters of the program name.

List of available characters

	!	"	#	\$	%	&	'	<	>	*	+	=	-	.	/
0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?
@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
P	Q	R	S	T	U	V	W	X	Y	Z	[\]	^	_
`	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
p	q	r	s	t	u	v	w	x	y	z	{		}	~	+

After completing program naming 6. Press the "H" double function edit control (EXIT) to return to the Write Mode.

Currently selected program Program to be written ID

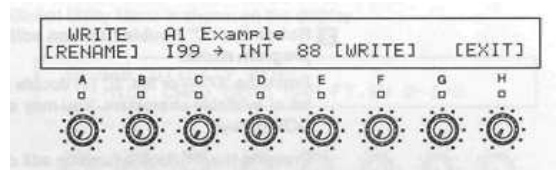


Selecting the program number to be written to

7. Rotate the "D" double function edit control to select INT (Internal A1 program) or CARD.

If you are saving to a RAM card, make sure that you slide the write-protect tab at the top left of the card to the OFF position.

8. Rotate the "E" double function edit control to select the program number. The UP/DOWN keys may also be used to select the program number.



After selecting the program number to be written to

9. Press the "F" double function edit control [WRITE].

10. Press the "G" double function edit control [YES] to start the write operation, or the "H" double function edit control [NO] to cancel the write operation.

After completing the write operation

11. "COMPLETED" is shown on the display.

12. Press the "H" double function edit control to return to the mode prior to the write operation.

IMPORTANT: After completing a write operation, always set the write-protect tab of the RAM card to the ON position in order to prevent accidental erasure of stored programs.

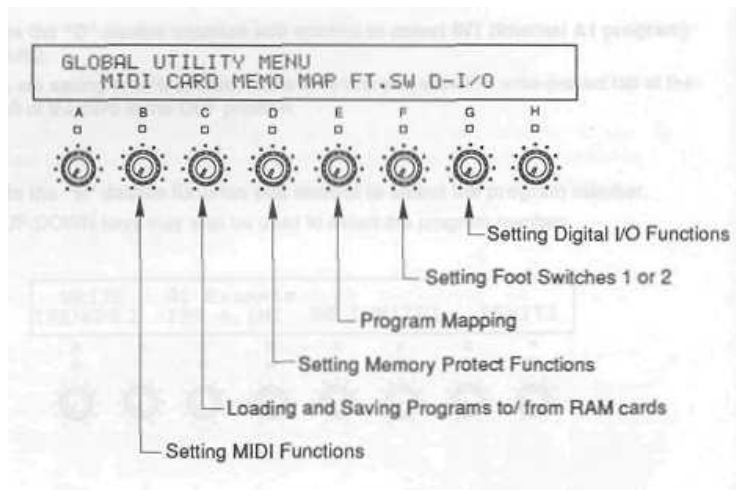
Global Utility Mode

The GLOBAL UTILITY MODE contains the following functions:

1. Setting MIDI functions and parameters
2. Loading programs from and saving to RAM cards
3. Setting Memory Protect functions
4. Mapping programs
5. Selecting Footswitch 1 and 2 functions
6. Setting Digital I/O Functions

Press the UTILITY Mode key to enter the GLOBAL UTILITY MENU

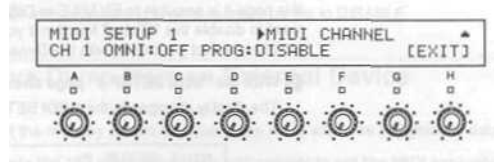
Press the double function edit control, below any of the six functions displayed in the Menu, to select a function for editing



1 Setting MIDI Functions

Page 1 of the
MIDI Menu

The "MIDI SETUP 1" page is for the selection of MIDI channels.



Selecting the MIDI transmit- receive channel

Rotate the "A" double function edit control to select any channel from 1 to 16.

Setting the OMNI Mode

Rotate the "G" double function edit control to set OMNI Mode ON or OFF.

OMNI-ON: all MIDI channels can be received.

OMNI-OFF: only specified MIDI channels can be received.

Enabling/Disabling MIDI program change messages

Rotate the "E" double function edit control to specify ENABLE or DISABLE.

ENABLE: MIDI program change messages can be received.

DISABLE; MIDI program change messages cannot be received.

Page 2 of the MIDI Menu

ENABLE and DISABLE setting for MIDI Volume control

The "MIDI SETUP 2" page is for MIDI volume setting and the transmission of MIDI exclusive data.

MIDI Volume data (CTRL07) can be used to control effect volume at the effect Chain location specified in the Volume Pedal Placement function (Program Utility Mode). In this page it is possible to ENABLE or DISABLE this function. For example, you may want to disable this "Global" function if you are using MIDI Volume data to control an individual effect parameter with the Dynamic Modulation function.

1. With the "MIDI SETUP 1" page showing, press the PAGE UP key.
The display changes to the "MIDI SETUP 2" page.

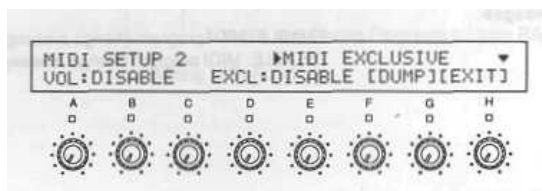


2. Rotate the "B" double function edit control to select ENABLE or DISABLE.
ENABLE: enables volume control by MIDI volume data.
DISABLE: disables volume control by MIDI volume data.

This procedure allows the dumping of the internal Programs and Map Play program settings to a MIDI data file or directly to another A1. Before starting this procedure, connect a MIDI cable from the MIDI OUT of the A1 to the MIDI IN of the receiving device.

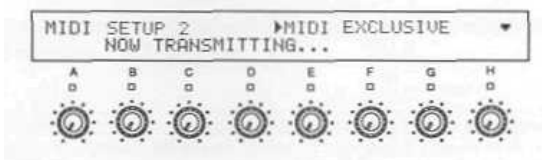
Dumping MIDI System Exclusive data

1. Press the PAGE + key to go from page [MIDI SETUP 1] to page 2 [MIDI SETUP 2] of the MIDI Menu.



2. Press the "G" double function editor [DUMP] to begin transmitting MIDI exclusive dump data.

Data is transmitted regardless of the ENABLE/DISABLE setting.



3. When the transmission is completed, "COMPLETED" is displayed.
4. Press the "H" double function edit control [EXIT] to return to the MIDI SETUP 2 page.

Press the "H" double function edit control [EXIT] to return to the GLOBAL UTILITY MENU.

**ENABLING or DISABLING MIDI
System Exclusive reception**

While on page 2 (MIDI EXCLUSIVE) of the MIDI Menu, turn the "E" double function edit control to select ENABLE or DISABLE.

ENABLE: Enables the reception of System Exclusive data
DISABLE: Disables the reception of System Exclusive era

The MIDI exclusive setting should normally be set to DISABLE.

Receiving a System Exclusive Dump from an External Device

Setting up

Turn off the memory protect function of the A1 to allow the reception of data.

1. Rotate the "E" double function edit control to set the MIDI exclusive setting of the receiving A1 to "ENABLE".

2. Press the PAGE- key to return to the MIDI SETUP 1 page.

3. Rotate the "A" double function edit control to match the receiving A1's MIDI channel with that of the transmitting device.

Receiving data

4. Conduct the dump data from the transmitting device.

EXCLUSIVE DUMP RECEIVING---" is displayed.

If not displayed, an error has occurred in the data transmission. If this occurs, recheck the MIDI cable connections.

5. When data transmission is completed, "EXCLUSIVE DUMP COMPLETED" [EXIT] is displayed.

Press the "H" double function edit control [EXIT] to return to the previous mode. A normal data dump takes approximately 10 seconds to complete.

2 Loading Programs from and Saving to Memory cards

This Card function allows the LOADING (in bulk) of data from ROM or RAM cards into the A1 internal memory or SAVING the A1 internal memory to RAM cards. This data consists of 100 programs and the Map Play program settings.

► ROM (Read Only Memory) Card

ROM cards allow data to be read only; data storage to a ROM card is not possible. The A1 factory-preset programs are backed up on the supplied ROM card.

► RAM (Random Access Memory) card

It is possible to read programs from or save program data to a RAM card. Programs can either be read directly from a RAM card, inserted in the card slot, or the card data can be loaded into the internal memory.

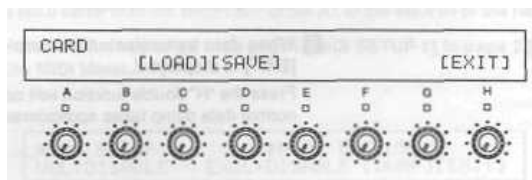
Loading card programs into the A1

1. Insert the ROM or RAM card Into the A1's CARD slot.

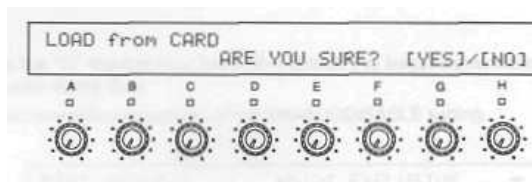
"ROM CARD INSERTED" or "(WRITE PROTECTED) RAM CARD INSERTED" is displayed.

2. Press the UTILITY Mode key to display the Global Utility Menu.

3. Press the "C" double function edit control [CARD].



4. Press the "C" double function edit control [LOAD]



5. Press the "G" double function edit control [YES] to proceed with program loading, or the "H" double function edit control [NO] to cancel program loading.

If an error message is displayed, press the "H" double function edit control [EXIT] to return to the Global Utility Menu.

For a list of error messages, see page 59.

6. When loading is completed, "COMPLETED" is displayed.

Press the "H" double function edit control [EXIT] to return to the GLOBAL UTILITY MENU.

Saving (writing) A1 programs to a RAM card

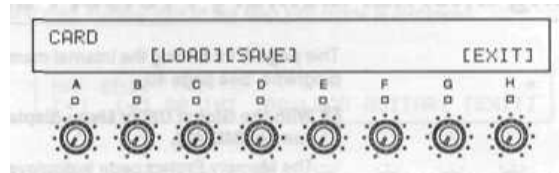
Make sure beforehand that the write-protect switch on the RAM card is set to OFF.

1. Insert the RAM card into the CARD slot.

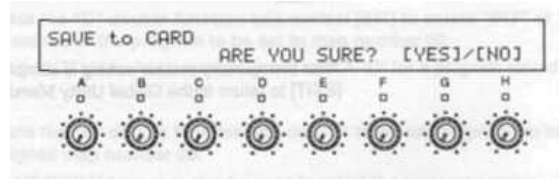
"RAM CARD INSERTED" or "UNFORMATTED" will appear on the display.
Press [EXIT] and go to step 2.

2. Press the UTILITY Mode key to display the Global Utility Menu.

3. Press the "C" double function edit control [CARD].



4. Press the "D" double function edit control [SAVE].



- Unformatted RAM cards are automatically formatted during a save operation.

5. Press the "G" double function edit control [YES] to proceed with program saving, or the "H" double function edit control [NO] to cancel program saving.

If an error message is displayed, press the "H" double function edit control [EXIT] to return to the Global Utility Menu.

For a list of error messages, see page 59.

6. When the program has been saved to the RAM card, "COMPLETED" is displayed.

Press the "H" double function edit control [EXIT] to return to the GLOBAL UTILITY MENU.

When program saving is completed

When you have finished saving the program, switch the write-protect switch on the RAM card to ON.

Using the ROM Card included with Your A1

The ROM card that comes with your A1 has been factory installed with the same data contained in the A1's internal programs [I 00 to I 99]. If any of the internal programs are erased by mistake, it can be restored by inserting the ROM card into the CARD slot and writing the internal program data from the ROM card in the Write Mode. The contents of all 100 internal programs may be replaced with the (factory-loaded) contents of the ROM card by loading data from the ROM card in the Global Utility mode.

3 Setting Internal Memory Protect Functions

This page is for turning the internal memory protect function ON and OFF for all A1 programs. See page 39.

- 1. With the Global Utility Menu displayed, press the "D" double Function edit control [MEMO].**

The Memory Protect page is displayed.

- 2. Rotate the "C" double function edit control to select "ON" or "OFF".**

Selecting "ON" will disable the card load function to and protects the internal program data.

After the memory protect setting is completed, press the "H" double function edit control [EXIT] to return to the Global Utility Menu.

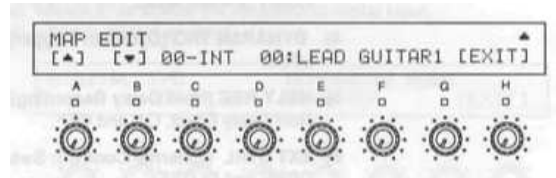
4 Mapping Programs

Map Edit

This function allows you to edit the program assignment in the Map Play mode (see page 17). Map Play allows you to reorganize programs for performance or remap incoming MIDI programs to A1 internal programs.

1. Press the **Utility Mode** key to display the **Global Utility Menu**.
2. Press the **"E"** double function edit control [MAP].

The first map number (00) of the Map Edit mode is displayed.



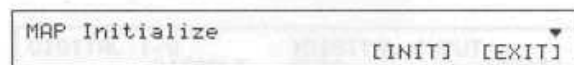
3. Rotate the **"D"** double function edit control [INT] to select **"INT"** or **"CARD"** for the source of the program to be set to map number 00.
Select **"INT"** for an A1 internal program, or **"CARD"** for a program stored on memory card.
4. Rotate the **"E"** double function edit control to select the program to be assigned map number 00.
The UP/DOWN keys may also be used to select the program number.
5. Rotate the **"C"** double function edit control, or press the **"A"** or **"B"** double function edit control to select the next map number.
6. Repeat steps 3 to 5 to enter the remaining programs.
7. After the program settings have been completed, press the **"H"** double function edit control [EXIT] to return to the **Global Utility Menu**.
8. In **Play Mode**, press the **Map** key to select **Map Play**.

This allows you to call back each program in the order they were entered.

MAP Initialization

The A1 was shipped with internal programs 1 00 to 1 99 set to Map numbers 00 to 99. When the Initialization procedure is done the Map is reset to this configuration.

1. Press the **PAGE+** key while In the **MAP EDIT** page.



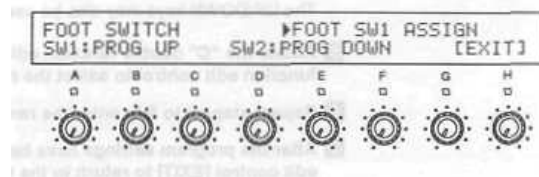
2. Press the **"F"** double function edit control [INT].
3. **"Are you sure?"** is displayed. Answer yes by pressing the **"G"** double function edit control.
4. Press the **"H"** double function edit control [EXIT] to return to the **Global Utility Menu**.

5 Setting Foot Switch Functions

Foot switches connected to FOOT SWITCH input jacks 1 and 2 on the rear panel can be used to control the following 1 functions:

- 1. PROG UP (Program Up):** While in Play Mode, advances the program number by 1.
 - 2. PROG DOWN (Program Down):** While in Play Mode, reverses the program number by 1.
 - 3. R-SP SPEED (Rotary Speaker Speed):** Switches the speed (SLOW/FAST) of the Rotary Speaker effect.
 - 4. DYNAPAN TRG (Dynapan Trigger):** Provides a manual trigger for the Dynapan affect
 - 5. HDLY REC (Hold Delay Recording):** Switches the Manual Record function, in the Hold Delay Effect, ON and OFF.
 - 6. EXT CTRL (External Control):** Switches the External Control function between OPEN and CLOSE.
 - 7. EFFECT 7:** Switches the 7th effect ON and OFF when the optional FC6 foot controller is connected.
- 1. Press the Utility Mode key after the Global Utility Menu is displayed, then press the "FT.SW" double function edit control.**

The foot switch setting is displayed



- 2. Rotate the "B" double function edit control to select the function for Foot Switch 1.**
- 3. Rotate the "E" double function edit control to select the function for Foot Switch 2.**
- 4. After completing the foot switch assignments press the "H" [EXIT] double function edit control to return to the GLOBAL UTILITY MODE.**

The UP/DOWN keys can also be used to select the foot switch assignments.

6 Setting the Digital I/O Functions

The Digital I/O allows you to send and receive 48-kHz digital audio interface signals (CP340 Type II).

This page is for enabling and disabling digital input, and for setting the emphasis for digital input.

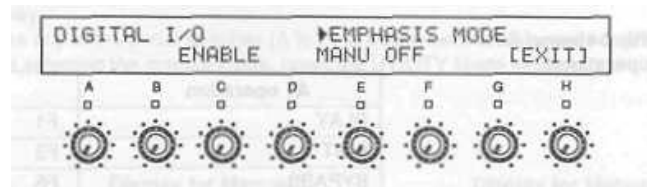
1. Enter the GLOBAL UTILITY MODE and press the "G" (D-I/O) double function edit control.

2. Rotate the "C" double function edit control to select the digital Input setting.

Select "DISABLE" to disable the reception of digital input.

Select "ENABLE" to enable the reception of digital input.

Digital output is always enabled.

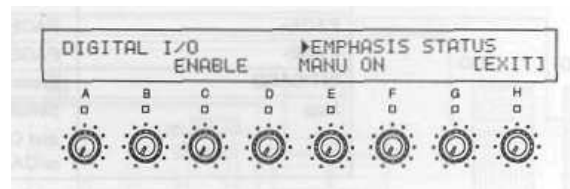


Note: The input indicators on the front panel do not show the level of a signal input through the digital I/O but the CLIP indicators do function while in this mode.

3. Rotate the "E" double function edit control to select Emphasis Mode for the digital Input.

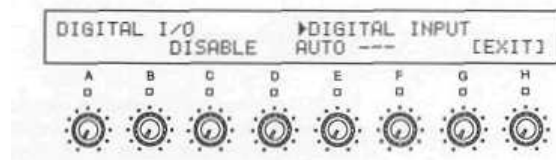
"AUTO" sets the EMPHASIS for the digital input to the same level as the EMPHASIS of the input signal.

"MANU" allows the EMPHASIS for the digital input to be set manually.



4. In the case of a "MANU" setting, rotate the "F" double function edit control to switch the EMPHASIS status of the digital input ON and OFF.

There is no change in the display in the case of the automatic EMPHASIS mode "AUTO",



5. After the digital I/O function settings have been completed, press the "H" double function edit control to return to the GLOBAL UTILITY MENU.

Connecting the Optional RE1 Remote Editor

Connecting the optional RE1 remote editor enables you to quickly perform editing operations at a remote location.

Connecting the RE1

1. Turn off the A1's POWER switch.

2. Connect the REMOTE Jack on the rear panel of the A1 to the RE1's REMOTE jack with the cable supplied with the RE1.

(Either the FC6 or the RE1 can be used at any one time, not both.)

3. Turn on the A1.

The RE-1 is powered by the A1. Attach the supplied RE-1/A1 function key label to the RE-1.

Connecting the RE-1 has no affect on the A1 front panel switches.

Relationship between A1 and RE1 operations.

A1 operation	RE1 operation
PLAY	F1
EDIT	F3
BYPASS	F5
COMPARE	F2
UTILITY	F4
WRITE	F6
Rotating double function edit controls	Sliders A to H
Pressing double function edit controls	Pressing switches A to H
▲ /+1	▲ /UP
▼ /-1	▼ /DOWN
PAGE+	PAGE+
PAGE-	PAGE-
INT/CARD	Pressing INT and CARD switches
Map	Simultaneous pressing of INT and CARD switches. Press INT or CARD switch when cancelling.

The RE1's numeric keypad (0-9) can be used in Play Mode to directly input program numbers, and in Chain Edit Mode to directly input Chain and effect numbers.

The RE1 display

With the exception of the map number display on the A1 during Map Play, the RE1'S display is identical to the display of the A1.

Connecting the Optional FC6 Foot Controller

The optional FC6 Foot Controller can be connected to the A1 to control program changes and individual effect ON and OFF commands.

The A1 can be controlled by the FC6 in either of the following manual modes.

Manual 1: Program Change Mode: Program changes on the A1 are triggered by the FC6.

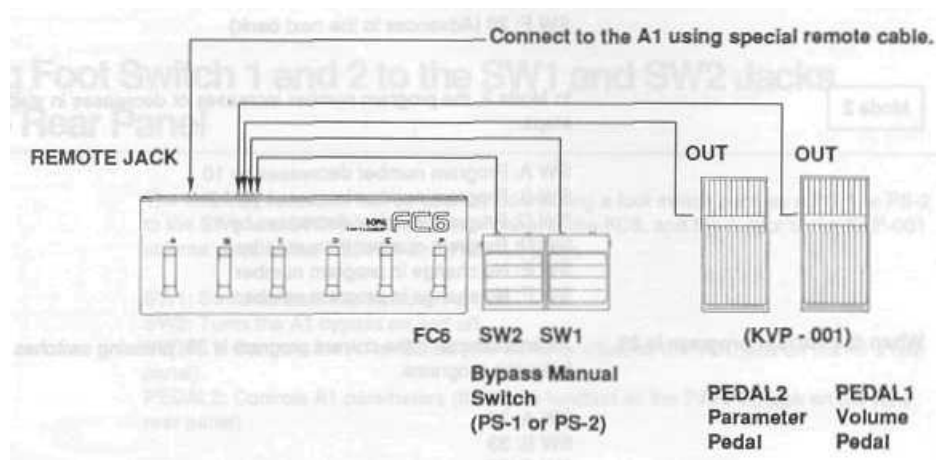
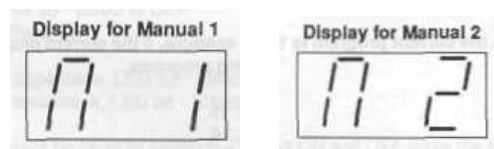
Manual 2: Effect ON/OFF Mode: Individual effects in A1 programs can be turned ON and OFF from the FC6.

1. Switching between Manual 1 and 2 using a foot switch such as the PS-1

- Connect the foot switch (PS-1, etc.) to the SW1 jack on the rear panel of the FC6.
- Manual 1 and 2 are alternated each time the foot press is pressed.

2. Switching between Manual 1 and 2 without a foot switch

- Press the UTILITY Mode key on the FC6 to show the manual mode status on the display.
- Press any of the pedal switches (A to F) to switch between Manual 1 and Manual 2.
- After selecting the manual mode, press the UTILITY Mode key again.



1 Manual 1 (Program Change Mode)

Manual 1 has two program change modes - Modes 1 and 2.
The Mode 1 switch is on the rear panel of the FC6.

Mode 1

In Mode 1, programs are grouped for selection into banks, with five consecutive programs making up one bank. The program assignments in each bank are:
program numbers 0-4, 5-9, 10-14, etc.

Using switch A to F, programs are called up as follows:

SW A: 1st program number in the bank
SW B: 2nd program number in the bank
SW C: 3rd program number in the bank
SW D: 4th program number in the bank
SW E: 5th program number in the bank
SW F: Advances to the next bank

To decrease the bank number

Holding down switch E, press switch F.
After calling up the 5th program by pressing switch E, pressing switch F calls up the previous bank.

When the current program is 18

As an example, if the current program is 18, pressing switches A to F will call up the following programs.

SW A: 15
SW B: 16
SW C: 17
SW D: 18
SW E: 19
SW F: 20 (Advances to the next bank)

Mode 2

In Mode 2, the program number increases or decreases in steps of ten or in Individual steps.

SW A: Program number decreases by 10
SW B: Program number increases by 10
SW C: Program number decreases by 1
SW D: Program number increases by 1
SW E: No change in program number
SW F: No change in program number

When the current program is 23

As an example, if the current program is 23, pressing switches A to F will call up the following programs.

SW A: 13
SW B: 33
SW C: 22
SW D: 24
SW E: 23(no change)
SW F: 23(no change)

The FC6 can be used to select not only the Internal Programs in the A1 (00 to 99) but also programs stored on a memory card (COO to C99).
The FC6 displays card programs as programs 100 to 199.

2 Manual 2 (Effect ON/OFF Mode)

In Manual 2, effects can be switched ON and OFF by pressing the corresponding FC6 switch.

Correspondence between A1 effects and FC6 switches

A1	FC6
Effect 1	SW A
Effect 2	SW B
Effect 3	SW C
Effect 4	SW D
Effect 5	SW E
Effect 6	SW F
Effect 7	*

Selecting effects with FC6 switches (A to F)

Red LED lights up - Effect is ON
Green LED lights up - Effect is OFF
No LED - No effect

Verifying ON/OFF status of effects on the A1 display

Effect name in uppercase, LED on - Effect is ON
Effect name in lowercase, LED off - Effect is OFF

- The FC6 cannot be used to switch the A1's 7th effect ON and OFF when the FC6 is connected; however, it is possible to switch the A1's 7th effect ON and OFF with a foot switch connected to the A1's rear panel (see page 55).

3 Connecting Foot Switch 1 and 2 to the SW1 and SW2 Jacks on the FC6 Rear Panel

The following functions can be used by connecting a foot switch such as a PS-1 or PS-2 to the SW1 and SW2 jacks on the rear panel of the FC6, and the output of the KVP-OO1 volume pedal to the PEDAL1 and PEDAL2 jacks.

SW1: Switches between manual 1 and 2.

SW2: Turns the A1 bypass on and off.

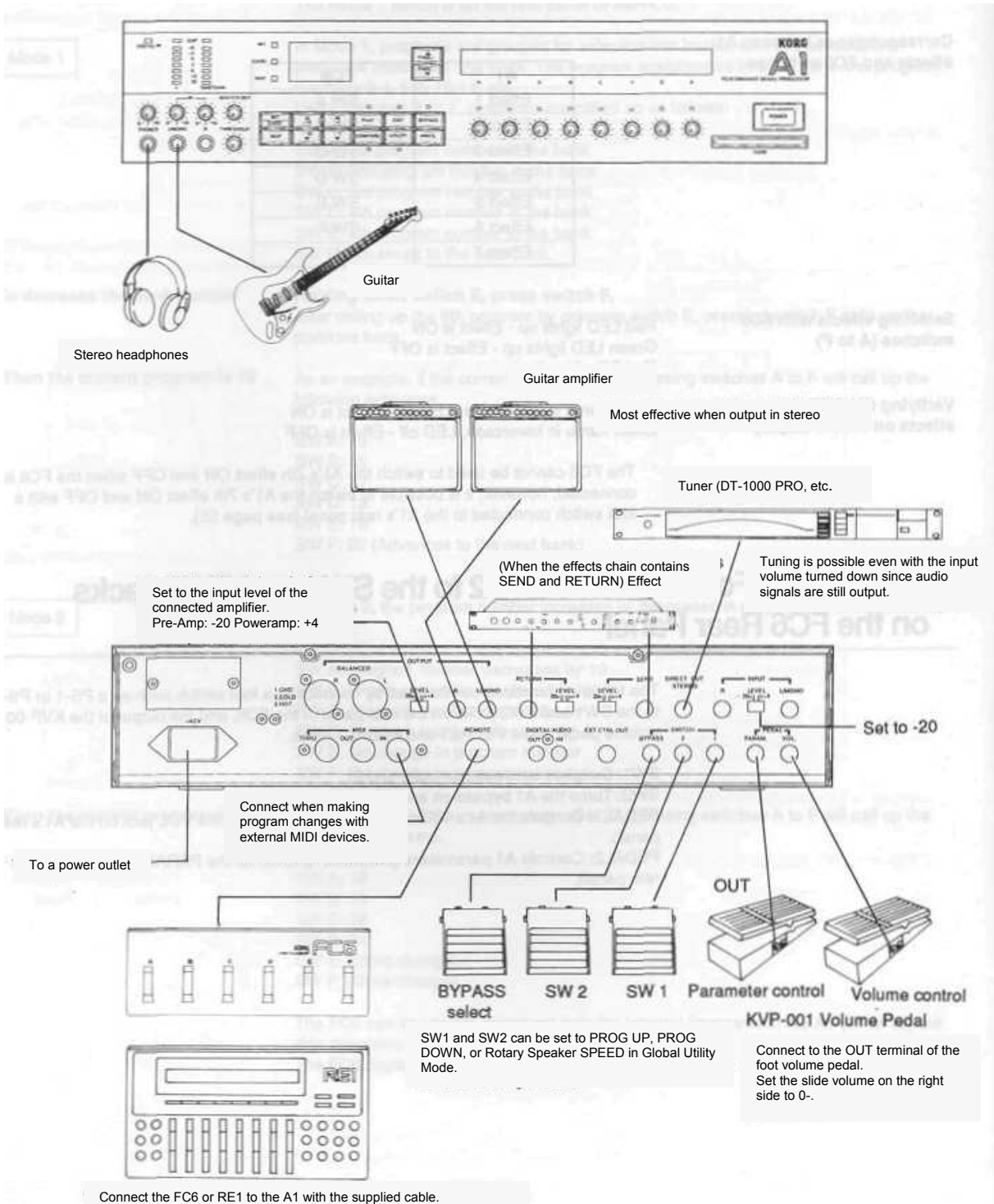
PEDAL1: Controls the A1's volume (the same function as the VOL jack on the A1's rear panel).

PEDAL2: Controls A1 parameters (the same function as the PARAM. jack on the A1's rear panel).

A1 Connection Examples

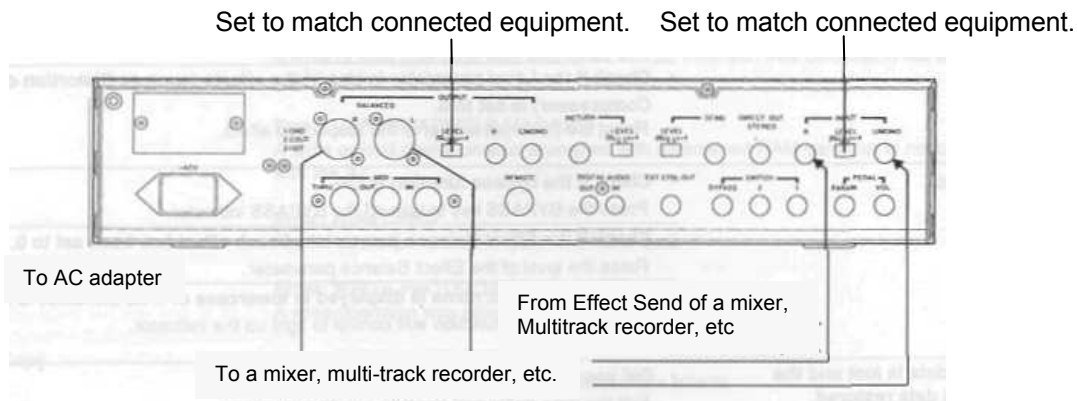
1 Guitar Setup

Make sure that the A1 's POWER switch is OFF before making any connections.



2 Mixers and Multi-track Recorder Setup

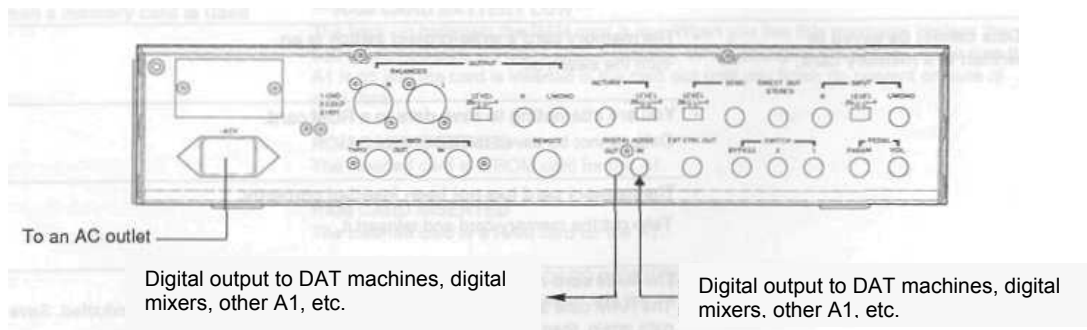
Make sure that the A1's POWER switch is OFF before making any connections.



3 Using the Digital I/O

Make sure that the A1's POWER switch is OFF before making any connections.

The A1's DIGITAL AUDIO IN function can only be used with digital equipment using a 48-MHz sampling frequency. The A1's Digital In LED will not light and there is no sound when connecting a unit with a sampling frequency other than 48 kHz. When using the DIGITAL AUDIO IN jack, set the DIGITAL INPUT parameter to "ENABLE" in the GLOBAL UTILITY MODE.



Caution: There is no need to connect both the digital IN and OUT cables when connecting a DAT machine to the A1. If both cables are connected, a feedback loop may occur.

IMPORTANT: Use a commercially available video cable for the DIGITAL IN and OUT jacks.

Troubleshooting

If a problem should occur during the operation of your A1, follow the suggestions below to check and remedy the trouble. If the A1 still does not function properly, contact the place of purchase or your nearest KORG service center.

No Sound	<ul style="list-style-type: none"> • Check if the INPUT volume control is set to 0. Adjust the INPUT volume control. An indicator reading of +3 or +6 is most suitable. • The MASTER OUT volume control is turned down. Gradually raise the level of the MASTER OUT volume control. • Check if the Level parameter In one of the effects (such as Distortion or Compressor) is set to 0. Reset the Level parameter of the respective effect.
No effect	<ul style="list-style-type: none"> • Check If the bypass function is ON. Press the BYPASS key to turn off the BYPASS indicator. • Check If the Effect Balance parameter of each effect has been set lo 0. Raise the level of the Effect Balance parameter. • Check If the effect name is displayed In lowercase or If Its Indicator Is off. Press the double function edit control to light up the indicator.
Edited data Is lost and the original data restored.	<ul style="list-style-type: none"> • Did you execute a write operation? Edit the data again and execute a write operation. • Check If the memory protect function is on. With the Global Utility Menu displayed, turn off the memory protect function. In the case of memory cards, turn the card's write-protect switch off.
Effects parameters cannot Be copied	<ul style="list-style-type: none"> • Check If an effect of a program being edited has been selected. Execute a write operation first before copying the edited effect program. • Check If the effect size Is appropriate. Copy from an effect with a larger effect size number.
Data cannot be saved or written to a memory card	<ul style="list-style-type: none"> • The memory card's write-protect switch is on. Turn the switch off. • You are attempting to save data to a ROM card. Data cannot be saved to ROM cards. • The memory card has not been Inserted correctly. Take out the memory card and reinsert it. • The RAM card has not been formatted. The RAM card is formatted at the same time a save operation is conducted. Save the data again, then repeal the write operation.
A1 Lockup (SYSTEM RESET)	<ul style="list-style-type: none"> • If a SYSTEM lockup should occur, first try a "soft" reset by powering the A1 down and powering back up. If this does not solve the problem, a "hard" SYSTEM reset can be done by holding down the WRITE button and PROGRAM-1 key during power up.

CAUTION: The SYSTEM RESET function will erase all programs in the A1 internal memory. It is always a good practice to back up your programs!

List of Messages

1 Error Messages

Memory card loading and saving

Error: NO CARD

The card to be loaded from or written to is not inserted.

Error: INVALID RAM CARD

A write or load operation was attempted with an inserted RAM card that is not compatible with the A1.

Error: UNFORMATTED RAM CARD

A write or load operation was attempted with an inserted RAM card that is not compatible with the A1.

Error: ROM CARD

A write operation was attempted to a ROM card.

Error: WRITE PROTECTED RAM CARD

A write operation was attempted to a write-protected RAM card.

Effect Copy

Error: EFFECT SIZE OVER

Copying was attempted between different size effects.

Write

Error: MEMORY PROTECTED

The internal programs of the A1 are write protected.

2 Messages

When turning on the power

*****INTERNAL BATTERY LOW*****

The back-up battery (to maintain the A1's internal memory) is low. When you see this message, immediately contact the place of purchase, or your nearest KORG service center for battery replacement.

When a memory card is Used

*****RAM CARD BATTERY LOW*****

The back-up battery in the RAM card is low. When you see this message, replace the battery immediately (CR2016 lithium battery). When changing the battery, make sure the A1 is on and the card is inserted in the card slot until you finish (to prevent erasure of card data).

ROM CARD INSERTED

The inserted card is a ROM card for the A1.

RAM CARD INSERTED

The inserted card is a RAM card for the A1.

WRITE PROTECTED RAM CARD INSERTED

A write-protected RAM card is inserted into the A1.

INVALID ROM CARD INSERTED

The inserted card is a ROM card not compatible with the A1, or a write-protected RAM card not compatible with the A1.

UNFORMATTED RAM CARD INSERTED

The inserted Ram card is not formatted for the A1.

MIDI Exclusive Message

NOW TRANSMITTING...

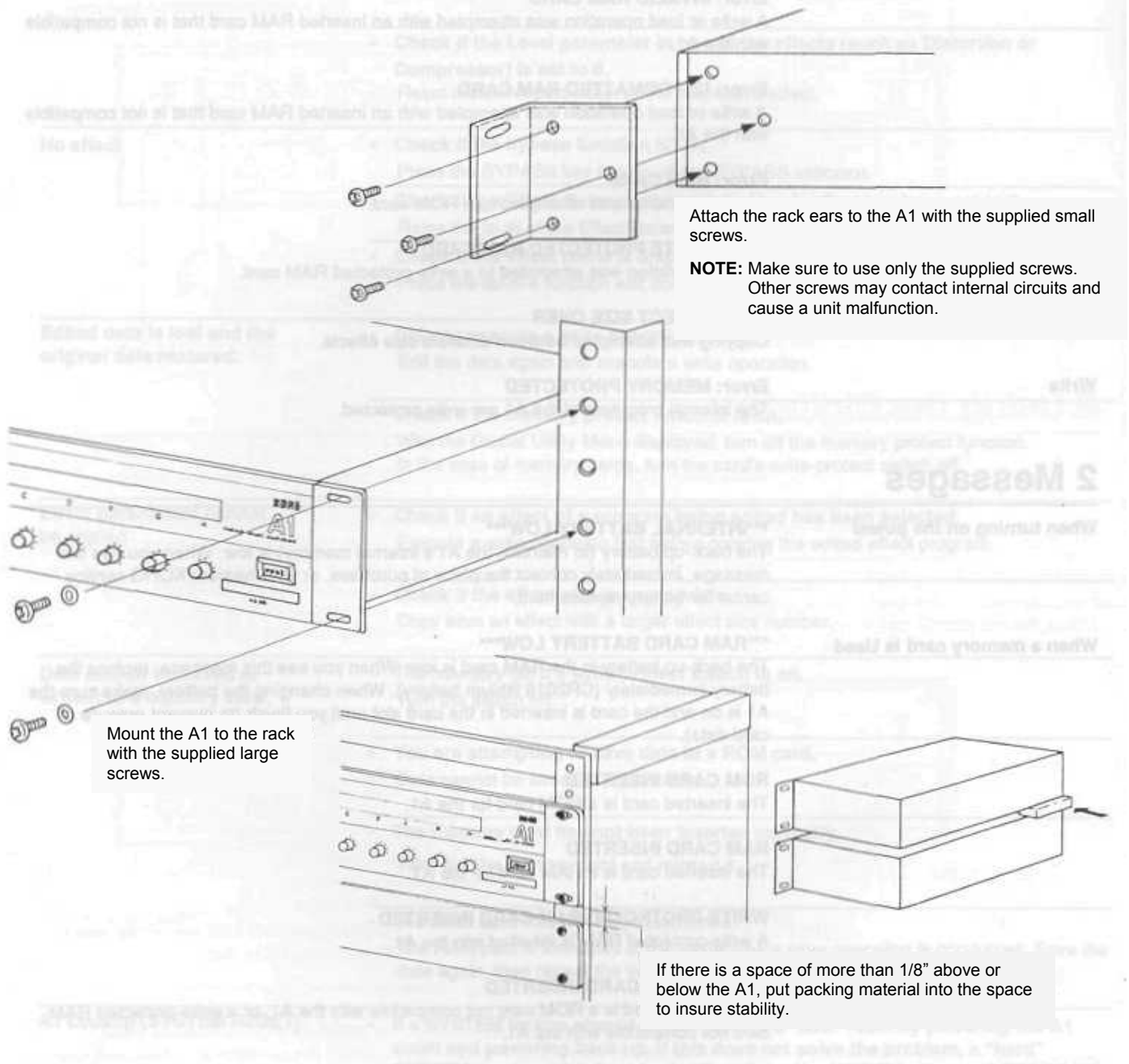
Exclusive data is being transmitted from the A1 to an external device.

EXCLUSIVE DUMP RECEIVING...

Exclusive data is being loaded from an external device to the A1.

Rack Mount Installation

If you have a 19-inch rack mount case, use the following procedure to install the A1.



Specifications and Options

Input	Input Level/Impedance Front (Unbalanced.)	+4 dBm (+19 dBm max.) / 1M ohm -20 dBm (+19 dBm max.) / 1M ohm
	Rear (Balanced)	+4 dBm (+19 dBm max.) / 10k ohm -20 dBm (+19 dBm max.) / 10k ohm
Output	Output Level / Impedance Rear (1/4inch, Unbalanced. Left and Right channels)	+4 dBm (+19 dBm max.) / 600 ohm -20 dBm (+19 dBm max.) / 600 ohm
	Rear (XLR Balanced)	+4 dBm(+19 dBm max.) / 600 ohm -20 dBm (+19 dBm max.) / 600 ohm
Send Output	Output Level / Impedance Rear (Unbalanced)	+4 dBm (+19 dBm max.) / 600 ohm -20 dBm(-19 dBm max.) / 600 ohm
Return Input	Input Level / Impedance Rear (Unbalanced)	+4 dBm (+19 dBm max.) 100k ohm -20 dBm (-5 dBm max.) 100k ohm
Direct Output	Input gain unity / 2.2k ohm	
AD/DA	16-bit linear	
Sampling frequency	48kHz	
Frequency characteristics	20Hz-20kHz(+1.5/-3dB)	
Dynamic range	85dB or more	
Memory	Internal-100 programs	
	Card - 100 programs	
Digital I/O	CP340 Type II or equivalent (sampling frequency 48kHz only)	
Power consumption	25W	
External dimensions	430 x 407.8 x 89mm (w/h/d) (16 9/10 x 16 x 3 1/2)	
Weight	6.3 kg (13lbs 14oz)	
Options	RE1 Remote Controller	
	FC6 Foot Controller	
	RCC-050 Remote Cable	
	KVP-001 Volume Pedal	
	PS-1, PS-2 Foot Switch	
	MCR-03 RAM card	

Design and specifications are subject to change without notice.

MIDI Implementation

Function		Transmission	Reception	Notes
Basic Channel	Default	1 ~ 16	1 ~ 16	Memorized
	Changed	1 ~ 16	1 ~ 16	Memorized
Mode	Default	X	Mode 1,3	Memorized
	Messages	X	O	
	Altered	*****	X	
Note Number		X	1 ~ 127	Through a Dynamic Source
	: True Voice	X	X	
Velocity	Note ON	X	1 ~ 127	Through a Dynamic Source
	Note OFF	X	X	
After Touch	Key's	X	X	Through a Dynamic Source
	Channels	X	O	
Pitch Bender		X	O	Through a Dynamic Source
Control Change	0	O	O	Bank select (MSB) *1
	7	X	O	Volume *2
	32	O	O	Bank select (LSB) *1
	1~31,33~95	X	O	Through a dynamic source
	121	X	O	Reset all controllers
Program Change		1 ~ 99	1 ~ 127	*1
	: True#	*****	0 ~ 99	
System Exclusive		O	O	When MIDI exclusive is set to ENABLED in Global Utility Mode.
System Common	: Song Pos	X	X	
	: Song Sel	X	X	
	: Tune	X	X	
System Real Time	: Clock	X	O	When DYNAPAN or HOLD DELAY is selected. When DYNAPAN is selected.
	: Command	X	O	
Aux Message	Local ON/OFF	X	X	
	: All Notes OFF	X	X	
	: Active Sence	X	X	
	: Reset	X	X	
Notes				
*2 When MIDI volume messages are enabled in Global Utility Mode.				
*1 When MIDI program change messages are enabled in Global Utility Mode.				

Mode 1 : OMNI ON, POLY Mode 2 : OMNI ON, MONO O : Yes
Mode 3 : OMNI OFF, POLY Mode 4 : OMNI OFF, MONO x: No

AI MIDI IMPLEMENTATION

1. TRANSMITTED DATA

1-1 Channel Messages

Status	Second	Third	Description
1011 nnnn	0000 0000	0000 0000	Program Bank Change (MSB)
1011 nnnn	0010 0000	0000 000b	Program Bank Change (LSB)
1100 nnnn	0ppp pppp	-----	Program Change

Transmit when Program Change Enable

nnnn : MIDI Channel Number
b : Bank (0 = Internal / 1 = Card)
ppp pppp : Program Number (0 - 99)

1-2 Universal System Exclusive Messages

Byte	Description
1111 0000 (F0)	Exclusive Status
0111 1110 (7E)	Non Realtime Message
0000 nnnn (0n)	MIDI Channel Number (Device ID)
0000 0110 (06)	Inquiry Message (Sub ID 1)
0000 0010 (02)	Identity Reply (Sub ID 2)
0100 0010 (42)	XORC ID (Manufactures ID)
0010 1100 (2C)	AI ID (Family Code (LSB))
0000 0000 (00)	(MSB)
0000 0000 (00)	(Member Code (LSB))
0000 0000 (00)	(MSB)
0xxx xxxx (xx)	ROM No. (Minor Ver. (LSB))
0000 0000 (00)	(MSB)
0xxx xxxx (xx)	Soft Version (Major Ver. (LSB))
0000 0000 (00)	(MSB)
1111 0111 (F7)	EOX

Transmits when Inquiry Message Request received.

1-3 System Exclusive Messages AI System Exclusive

1st Byte = 1111 0000 (F0) : Exclusive Status	Ex. Header
2nd Byte = 0100 0010 (42) : XORC ID	
3rd Byte = 0011 nnnn (3n) : Format ID n: MIDI Channel	
4th Byte = 0010 1100 (2C) : AI ID	
5th Byte = 0fff ffff (ff) : Function Code	
6th Byte = 0ddd dddd (dd) : Data	
Last 8 byte = 1111 0111 (F7) : End of Exclusive	

Func	Description	R	C	D	E
42	MODE DATA				
4E	MODE CHANGE	0			
41	PARAMETER CHANGE		0		
40	PROGRAM PARAMETER DUMP		0		
50	ALL DATA DUMP		0	0	
26	RECEIVE MESSAGE FORMAT ERROR				0
23	DATA LOAD COMPLETED				0
24	DATA LOAD ERROR				0
21	WRITE COMPLETED				0
22	WRITE ERROR				0

Transmitted when

R : Request message is received
C : Mode or Number changed by switch
D : Data dump by switch
E : Exclusive message received

2. RECOGNIZED RECEIVE DATA

2-1 Channel Messages

Status	Second	Third	Description	ENR
1000 nnnn	0xxx xxxx		Note Off	D
1001 nnnn	0xxx xxxx		Note Off	D
1001 nnnn	0xxx xxxx		Note On	D
1011 nnnn	0000 0000		Program Bank Change (MSB)	P
1011 nnnn	0000 0111		Volume	P
1011 nnnn	0010 0000		Program Bank Change (LSB)	P
1011 nnnn	0ccc cccc		Control Change	D
1011 nnnn	0111 1001		Reset All Controllers	
1011 nnnn	0111 1100		Omni Mode Off	
1011 nnnn	0111 1101		Omni Mode On	
1100 nnnn	0ppp pppp		Program Change	*1 P
1101 nnnn	0ddd dddd		After Touch	*2 D
1110 nnnn	0ddd dddd		Pitch Bender	D

nnnn : MIDI Channel Number

xxx xxxx : Note Number

vvv vvvv : Velocity (1 - 127)

b : Bank (0 = Internal / 1 = Card)

ddd dddd : Data (0 - 127)

ccc cccc : Controller Number (1 - 31, 33 - 95)

ppp pppp : Program Number

x : Don't care

3. MIDI EXCLUSIVE FORMAT (R : Receive, T : Transmit)

(1) MODE REQUEST

Byte	Description
F0, 42, 3n, 2C 0001 0010 1111 0111	Exclusive Header Mode Request EOX

Receives this message, and transmits Func=42 message.

(2) PROGRAM PARAMETER DUMP REQUEST

Byte	Description
F0, 42, 3n, 2C 0001 0000 1111 0111	Exclusive Header Program Parameter Dump Request EOX

Receives this message, and transmits Func=40 or Func=24 message.

(3) ALL DATA (Utility and All Program) DUMP REQUEST

Byte	Description
F0, 42, 3n, 2C 0000 1111 0000 0008 1111 0111	Exclusive Header All Data Dump Request Program Bank EOX

Receives this message, and transmits Func=50 or Func=24 message.

Note 2 - R = 0 Internal, R = 1 Card

(4) PROGRAM WRITE REQUEST

Byte	Description
F0, 42, 3n, 2C 0001 0001 0000 000b 0ppp pppp 1111 0111	Exclusive Header Program Write Request Program Bank Write Program Number EOX

Receives this message, write program data and transmits Func=21 or Func=22 message.

(5) PROGRAM PARAMETER DUMP

Byte	Description
F0, 42, 3n, 2C 0100 0000 0ddd dddd ... 1111 0111	Exclusive Header Program Parameter Dump Data ... EOX

Receives this message and data, and transmits Func=23 or Func=24 message.

Receives Func=10 message, and transmits this message and data. When the Program number is changed by switch, transmits this message and data.

EMA = P : Enabled when Program Change On
E : Enabled when Exclusive On
D : Selected as Dynamic Source

*1 : Data beyond value of 99 are assigned a new value by subtracting 100.
*2 : Receive when selected as Speed Select in Rotary Speaker effect.

2-2 System Realtime Messages

Status	Description
1111 1000	Timing Clock
1111 1010	Start
1111 1011	Continue
1111 1100	Stop

*3 : Receive when MIDI selected as Tempo Control source in Tempo Delay effect, or CLK selected as Trigger Select in Dynapian effect.

*4 : Receive when CLK selected as Trigger Select in Dynapian effect.

2-3 Universal System Exclusive Messages

Byte	Description
1111 0000 (F0)	Exclusive Status
0111 1110 (7E)	Non Realtime Message
0nnn nnnn (nn)	MIDI Channel Number (Device ID)
0000 0110 (06)	Inquiry Message (Sub ID 1)
0000 0001 (01)	Inquiry Request (Sub ID 2)
1111 0111 (F7)	EOX

Receives this Message and transmits Inquiry Reply Message.

nn = 00 - 0F : Receive if Same Channel

7F : Receive any Channel

2-4 System Exclusive Messages

Func	Description	P	E	U	M
12	MODE REQUEST	0	0	0	0
10	PROGRAM PARAMETER DUMP REQUEST	0	0	0	0
0F	ALL DATA DUMP REQUEST	0	0	0	0
11	PROGRAM WRITE REQUEST	0	0	0	0
40	PROGRAM PARAMETER DUMP	0	0	0	0
50	ALL DATA DUMP	0	0	0	0
4E	MODE CHANGE	0	0	0	0
41	PARAMETER CHANGE	0	0	0	0

Received when

P : Play Mode
E : Edit Mode
U : Utility Mode
M : Write Mode

(6) ALL DATA (Utility and All Program) Dump R, T

Byte	Description	
F0, 42, 3n, 2C 0101 0000	Exclusive Header All Data Dump	50
0000 000b	Format	(NOTE 2)
00dd dddd	Data	(NOTE 5)
..... 1111 0111	... EOX	

Receives this message and data, and transmits Func=23 or Func=24 message.
Receives Func=0F message, and transmits this message and data.
Transmits this message and data by DUMP sv.

(7) MODE CHANGE R, T

Byte	Description	
F0, 42, 3n, 2C 0100 1110	Exclusive Header Mode Change	4E
0000 00mm	Mode Data	(NOTE 1)
1111 0111	EOX	

Receives this message and data, changes Mode, and transmits Func=23 or Func=24 message.
When Mode is changed by switch, transmits this message and data.

(8) PARAMETER CHANGE R, T

Byte	Description	
F0, 42, 3n, 2C 0100 0001	Exclusive Header Parameter Change	41
0000 00mm	Mode	(NOTE 7)
00pp pppp	Page	(TABLE 4)
000p pppp	Position	(TABLE 5)
0vvv vvvv	Value (LSB bit 6 - 0)	(NOTE 8)
0vvv vvvv	Value (MSB bit 15 - 7)	(NOTE 8)
1111 0111	EOX	

Receives this message and data, and transmits Func=23 or Func=24 message.
When Parameter is changed by switch, transmits this message and data.

(9) MODE DATA T

Byte	Description	
F0, 42, 3n, 2C 0100 0010	Exclusive Header Mode Data	42
0000 00mm	Mode Data	(NOTE 1)
0000 000b	Program Bank	(NOTE 2)
0000 0vvv	Card Variation	(NOTE 4)
1111 0111	EOX	

Receives Func=12 message, and transmits this message and data.

(10) MIDI IN DATA FORMAT ERROR T

Byte	Description	
F0, 42, 3n, 2C 0010 0110	Exclusive Header MIDI In Data Format Error	26
1111 0111	EOX	

Transmits this message when there is an error in MIDI in message.

(11) DATA LOAD COMPLETED T

Byte	Description	
F0, 42, 3n, 2C 0010 0011	Exclusive Header Data Load Completed	23
1111 0111	EOX	

Transmits this message when DATA LOAD, PROCESSING have been completed.

(12) DATA LOAD ERROR T

Byte	Description	
F0, 42, 3n, 2C 0010 0100	Exclusive Header Data Load Error	24
1111 0111	EOX	

Transmits this message when DATA LOAD, PROCESSING have not been completed.

(13) WRITE COMPLETED T

Byte	Description	
F0, 42, 3n, 2C 0010 0001	Exclusive Header Write Completed	21
1111 0111	EOX	

Transmits this message when DATA WRITE by MIDI has been completed.

(14) WRITE ERROR T

Byte	Description	
F0, 42, 3n, 2C 0010 0010	Exclusive Header Write Error	22
1111 0111	EOX	

Transmits this message when DATA WRITE by MIDI has not been completed.

NOTE 1 : $m = 0$: Play Mode
 1 : Edit Mode
 2 : Utility Mode
 3 : Write Mode

NOTE 2 : $b = 0$: Internal
 1 : Card

NOTE 3 : $ppp = 0$: No Card
 1 : Invalid Card
 2 : Unformatted RAM Card
 3 : RAM Card (Formatted)
 4 : ROM Card
 5 : Write Protected RAM Card (Formatted)

NOTE 4 : $vvv = 0$: No Card
 1 : Invalid Card
 2 : Unformatted RAM Card
 3 : RAM Card (Formatted)
 4 : ROM Card
 5 : Write Protected RAM Card (Formatted)

NOTE 5 : $vvv = 0$: No Card
 1 : Invalid Card
 2 : Unformatted RAM Card
 3 : RAM Card (Formatted)
 4 : ROM Card
 5 : Write Protected RAM Card (Formatted)

NOTE 6 : $vvv = 0$: No Card
 1 : Invalid Card
 2 : Unformatted RAM Card
 3 : RAM Card (Formatted)
 4 : ROM Card
 5 : Write Protected RAM Card (Formatted)

NOTE 7 : $vvv = 0$: No Card
 1 : Invalid Card
 2 : Unformatted RAM Card
 3 : RAM Card (Formatted)
 4 : ROM Card
 5 : Write Protected RAM Card (Formatted)

NOTE 8 : $vvv = 0$: No Card
 1 : Invalid Card
 2 : Unformatted RAM Card
 3 : RAM Card (Formatted)
 4 : ROM Card
 5 : Write Protected RAM Card (Formatted)

NOTE 9 : $vvv = 0$: No Card
 1 : Invalid Card
 2 : Unformatted RAM Card
 3 : RAM Card (Formatted)
 4 : ROM Card
 5 : Write Protected RAM Card (Formatted)

NOTE 10 : $vvv = 0$: No Card
 1 : Invalid Card
 2 : Unformatted RAM Card
 3 : RAM Card (Formatted)
 4 : ROM Card
 5 : Write Protected RAM Card (Formatted)

NOTE 11 : $vvv = 0$: No Card
 1 : Invalid Card
 2 : Unformatted RAM Card
 3 : RAM Card (Formatted)
 4 : ROM Card
 5 : Write Protected RAM Card (Formatted)

NOTE 12 : $vvv = 0$: No Card
 1 : Invalid Card
 2 : Unformatted RAM Card
 3 : RAM Card (Formatted)
 4 : ROM Card
 5 : Write Protected RAM Card (Formatted)

NOTE 13 : $vvv = 0$: No Card
 1 : Invalid Card
 2 : Unformatted RAM Card
 3 : RAM Card (Formatted)
 4 : ROM Card
 5 : Write Protected RAM Card (Formatted)

NOTE 14 : $vvv = 0$: No Card
 1 : Invalid Card
 2 : Unformatted RAM Card
 3 : RAM Card (Formatted)
 4 : ROM Card
 5 : Write Protected RAM Card (Formatted)

NOTE 15 : $vvv = 0$: No Card
 1 : Invalid Card
 2 : Unformatted RAM Card
 3 : RAM Card (Formatted)
 4 : ROM Card
 5 : Write Protected RAM Card (Formatted)

NOTE 16 : $vvv = 0$: No Card
 1 : Invalid Card
 2 : Unformatted RAM Card
 3 : RAM Card (Formatted)
 4 : ROM Card
 5 : Write Protected RAM Card (Formatted)

NOTE 17 : $vvv = 0$: No Card
 1 : Invalid Card
 2 : Unformatted RAM Card
 3 : RAM Card (Formatted)
 4 : ROM Card
 5 : Write Protected RAM Card (Formatted)

NOTE 18 : $vvv = 0$: No Card
 1 : Invalid Card
 2 : Unformatted RAM Card
 3 : RAM Card (Formatted)
 4 : ROM Card
 5 : Write Protected RAM Card (Formatted)

NOTE 19 : $vvv = 0$: No Card
 1 : Invalid Card
 2 : Unformatted RAM Card
 3 : RAM Card (Formatted)
 4 : ROM Card
 5 : Write Protected RAM Card (Formatted)

NOTE 20 : $vvv = 0$: No Card
 1 : Invalid Card
 2 : Unformatted RAM Card
 3 : RAM Card (Formatted)
 4 : ROM Card
 5 : Write Protected RAM Card (Formatted)

NOTE 21 : $vvv = 0$: No Card
 1 : Invalid Card
 2 : Unformatted RAM Card
 3 : RAM Card (Formatted)
 4 : ROM Card
 5 : Write Protected RAM Card (Formatted)

NOTE 22 : $vvv = 0$: No Card
 1 : Invalid Card
 2 : Unformatted RAM Card
 3 : RAM Card (Formatted)
 4 : ROM Card
 5 : Write Protected RAM Card (Formatted)

NOTE 23 : $vvv = 0$: No Card
 1 : Invalid Card
 2 : Unformatted RAM Card
 3 : RAM Card (Formatted)
 4 : ROM Card
 5 : Write Protected RAM Card (Formatted)

NOTE 24 : $vvv = 0$: No Card
 1 : Invalid Card
 2 : Unformatted RAM Card
 3 : RAM Card (Formatted)
 4 : ROM Card
 5 : Write Protected RAM Card (Formatted)

TABLE 1 Program Parameters

Offset No.	Parameters	Data(Hex) :	Value
00	Program Name (Head)	00 .. 7F	
01	Program Name (Tail)		
02	(NUL)	00	
03	Chain Number		
04	Effect 1 Parameters		
05	Effect On/Off	00, 01	On, Off
06	Effect Number		
07	Effect Variation Number		
08	Dynamic Source	00 .. 66	*1
09	Dynamic Amount	9C .. 64	
10	Effect Parameter		
11	Effect 2 - 7 Parameters		
12	Same as Effect 1 (12 .. 35) x 6		
13	Program Utilities		
14	Output Level	00 .. 64	0 .. 100
15	Threshold Level	00 .. 64	0 .. 100
16	Threshold Level 2	00 .. 64	0 .. 100
17	Volume Pedal Place	02 .. 07	
18	External Control	00, 01	Close, Open
19	(NUL)	00	
20			

*1 0 : Off

1 : Envelope

2 : LFO

3 : Parameter Pedal

4 : MIDI Velocity

5 : MIDI After Touch

6 : MIDI Pitch Bend

8 - 102 : MIDI Control Change (can't take 7 and 33)

(Control No. 1-95 except 32)

TABLE 2 Utility Parameters

No.	Parameters	Data(Hex)	Value
00	MIDI Volume	00, 01	: Dis. Ena
01	Digital In	00, 01	: Dis. Ena
02	Effects Mode	00, 01	: Auto, Manual
03	Effects Status	00, 01	: OFF, ON
04	Pedal 1 Assign	00 .. 06	*2
05	Pedal 2 Assign	00 .. 06	*2

*2 00 : Program Up
01 : Program Down
02 : Rotary Speaker Speed Control
03 : Dynapad Trigger
04 : Hold Delay Trigger
05 : External Control
06 : Effect 7 On/Off (when FCB connected)

TABLE 3 Map Parameters

No.	Parameters	Data(Hex)	Value
00	Map Number 00	00 .. C7	: 100 .. 199
99	Map Number 99		: C00 .. C99

TABLE 4 Page Number (for Parameter Change)

Page (HEX)	Parameters
Play Mode (M = 0)	
Play	
00	Effect On/Off
Performance Edit	
01	Effect On/Off Performance Edit
Edit Mode (M = 1)	
Effect Edit (Effect 1 - 7)	
01	Effect On/Off Effect Variation Select
*4	Effect On/Off Effect Variation Select Effect Parameters
*5	Effect Parameters
*6	Dynamic Modulation
Chain Edit	
19	Effect Select Effect On/Off
1A	Chain Select
Program Utility	
2C	Level
2D	Volume Pedal Placement
2E	External Control

*4 0000 nnnn : nnnn = Effect Place Number + 1 (2 - 8)
*5 pppp nnnn : pppp = Page Number
*6 eeee nnnn : eeee = end of Page Number of the Effect

TABLE 5 Position Number (for Parameter Change)

	A	B	C	D	E	F	G	H
sv	08	09	0A	0B	0C	0D	0E	0F
volume	10	11	12	13	14	15	16	17

IMPORTANT SAFETY INSTRUCTIONS

WARNING: When using electric products, basic precautions should always be followed, including the following.


1. Read all the instructions before using the product.
2. To reduce the risk of injury, close supervision is necessary when a product is used near children.
3. Do not use this product near water - for example, near a bathtub, washbowl, kitchen sink, in a wet basement, or near a swimming pool, or the like.
4. This product should be used only with a cart or stand that is recommended by the manufacturer.
5. This product, either alone or in combination with an amplifier and headphones or speakers, may be capable of producing sound levels that could cause permanent hearing loss. Do not operate for a long period of time at high volume level or at a level that is uncomfortable. If you experience any hearing loss or ringing in the ears, you should consult an audiologist.
6. The product should be used in a location or position that does not interfere with its proper ventilation,
7. The product should be located away from heat sources such as radiators, heat registers, or other products that produce heat.
8. The product should be connected to a power supply only of the type described in the operating instructions or as marked on the product.
9. The power-supply cord of the product should be unplugged from the outlet when left unused for a long period of time.
10. Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.
11. The product should be serviced by qualified service personnel when:
 - A. The power-supply cord or the plug has been damaged; or
 - B. Objects have fallen, or liquid has been spilled into the product; or
 - C. The product has been exposed to rain; or
 - D. The product does not appear to operate normally or exhibits a marked change in performance; or
 - E. The product has been dropped, or the enclosure damaged.
12. Do not attempt to service the product beyond that described in the user-maintenance instructions. All other servicing should be referred to qualified service personnel.

SAVE THESE INSTRUCTIONS



N O T I C E

KORG products are manufactured under strict specifications and voltages required by each country. These products are warranted by the KORG distributor only in each country. Any KORG product sold without a warranty card or not carrying a serial number disqualifies the product from the manufacturer's warranty and liability. This requirement is for your own protection and safety.

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